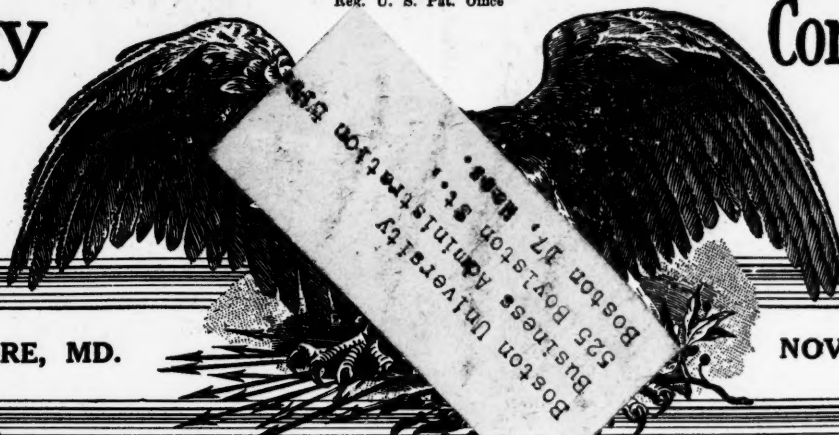


Manufacturers Record

Reg. U. S. Pat. Office

Industry Construction



BALTIMORE, MD.

NOVEMBER 26, 1931



The Great Southern Market

The major items forming the bulk of the South's buying power emphasize the importance of this section in the nation's business life. This great market within the borders of the United States offers a tremendous opportunity for development and expansion, by reason of its raw materials and other unmatched resources.

As primary wealth, the total annual gross income of Southern manufactures, mines and farms, based on the latest obtainable complete figures, was more than \$19,000,000,000.

The income from transportation, other public utilities, professional and commercial lines, in the aggregate forms an enormous additional buying power for supplies and equipment of practically every description.

The South's 47,400 wholesale and 438,700 retail establishments did a gross business in excess of \$26,900,000,000 in 1929.

The 46,500 manufacturing establishments listed in the South, according to the last Census, spent \$6,626,000,000 for materials, fuel and power.

Railroad expenditures, and expenditures for the operation and expansion of public electric power and gas and oil systems, aggregate more than \$1,000,000,000 a year in the South.

More than \$500,000,000 is being spent annually by the South on highway maintenance and development.

More than \$400,000,000 is spent on public education each year in the South, about one-fifth of which is for new buildings and equipment.

About \$1,000,000,000 a year is spent by the South for food and feed, mainly processed products, from other sections of the country.

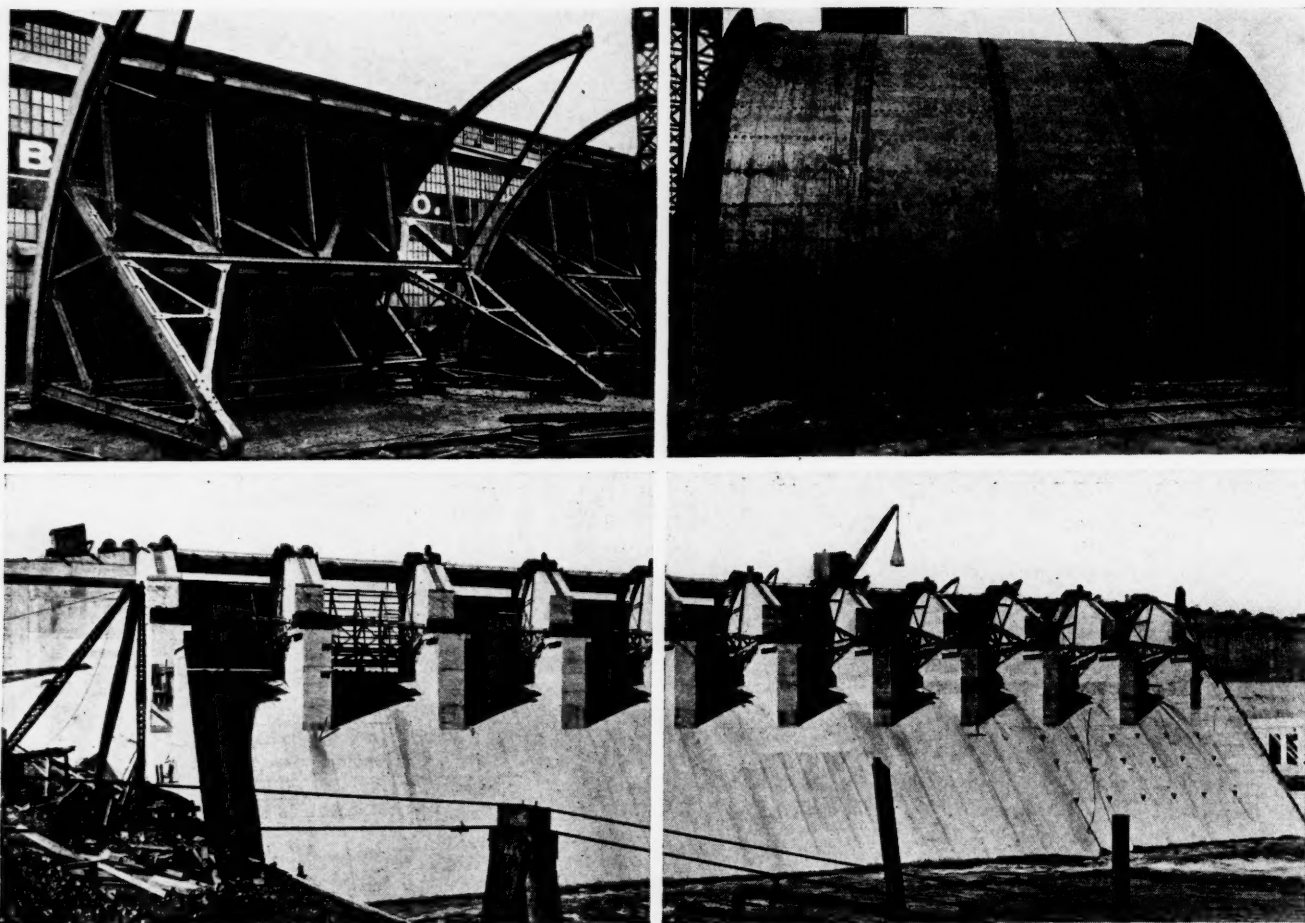
The 1929 Census showed that the South's manufactured output that year was valued at more than \$11,700,000,000.

Each year, some 4000 mines and quarries of the South produce in the aggregate more than \$1,000,000,000 of new wealth.

In normal times the South's 3,400,000 farms produce annually more than \$3,000,000,000 of new wealth from the soil.

The magnitude of the figures presented should enable us more fully to appreciate the importance of protecting and developing this great market within our own borders.

Care in the Shop Avoids Trouble on the Job



FITTED FOR THE JOB

Upper pictures show Taintor Gates being assembled and fitted together in our Memphis Plant. We manufactured 10 of these for the Carpenter Dam on Ouachita River, Hot Springs, Ark., built by Phoenix Utility Co., Engineers, for Arkansas Power & Light Co. Lower picture shows Carpenter Dam with gates in place.

Taintor Gates, as they are called, control the water elevation in dams. They must fit true and close for water-tightness and ease of operation. And then they have to stand considerable pressure. All of which calls for an exact job of manufacture.

We have built many taintor gates, sluice gates, intake gates, in fact all kinds of steel-work for dams and power projects. Which we mention here as evidence of our widely varied experience and ability.

VIRGINIA BRIDGE

Steel Structures

VIRGINIA BRIDGE & IRON CO.
Roanoke, Birmingham, Memphis, Atlanta, New Orleans
New York, Los Angeles, Charlotte, Dallas, El Paso

Plants at Roanoke—Birmingham—Memphis

STEERS

*without
swinging the
cab!*

*with the
cab in any
position*

ARE you still paying the tribute of delay to this hangover of the inferior construction of the good old chariots of yesterday? Are you still risking the danger of fouling the boom every time you turn a corner because you must swing the cab to steer?

Come up to date on steering and mobility. Find out what real mobility is!

All Northwests have always steered from the cab with the cab in any position. Positive traction—full engine power—is maintained on both crawlers at all times—even when turning.

Such a combination means a new speed—a new maneuverability that negotiates going impossible for "lame duck" crawlers that must be steered by swinging the cab. It means a new ease of handling in streets, under wires, about trees or in alleys.

Northwest brings you advantages that no other machine can offer. Check the yardages that they are getting against others.

NORTHWEST ENGINEERING COMPANY

The world's largest exclusive builders of gasoline, oil burning and electric powered shovels, cranes and draglines

1733 Steger Building., 28 East Jackson Blvd., Chicago, Ill., U. S. A.

NORTHWEST

SHOVELS—CRANES—DRAGLINES—PULLSHOVELS—SKIMMER-SCOOPS

MR 11-26-Gray

THIS
IS
PAGE
3



Atlanta, Ga.: 351 Whitehall St.
Memphis, Tenn.: Second at Butler
Dallas, Tex.: 1221 S. Lamar St.

St. Louis, Mo.: 1325 Macklind Ave.
Baltimore, Md.: 15 W. Franklin St.
New Orleans, La.: 51 Bank Bldg.

T STEEL

DAY after day and year after year, Tennessee's mills are producing an ever-increasing line of products to satisfy the expanding needs of its customers.

When the demand has arisen for a new product, Tennessee has been ready to supply it... when the trade has required a new section, Tennessee has prepared rolls for it. In addition to standard and light rails and accessories, our range now includes a full line of Bars, Plates, Shapes and Sheets in Open Hearth or Tennessee Copper Steel Quality... all manufactured to an uncompromising standard of excellence which is guarded by an ever alert system of inspection. Heavy mill stocks are carried to satisfy the present day demand for quick deliveries. When you are rushed for time, you will appreciate this service.

Products: Bars, Plates, Shapes, Sheets, Tool Steel, Forgings, Castings, Rails and Accessories, Semi-finished Materials, Pig Iron.

TENNESSEE COAL, IRON & RAILROAD COMPANY

General Offices: Brown-Marx Building, Birmingham, Ala.

Subsidiary of United States Steel Corporation

AMERICAN BRIDGE COMPANY

AMERICAN SHEET AND TIN PLATE COMPANY

AMERICAN STEEL AND WIRE COMPANY

CARNEGIE STEEL COMPANY

Pacific Coast Distributors—Columbia Steel Company, Russ Building, San Francisco, Calif.

PRINCIPAL SUBSIDIARY

COLUMBIA STEEL COMPANY

CYCLONE FENCE COMPANY

FEDERAL SHIPBUILDING AND DRY DOCK COMPANY

Russ Building, San Francisco, Calif.

MANUFACTURING COMPANIES

ILLINOIS STEEL COMPANY

MINNESOTA STEEL COMPANY

NATIONAL TUBE COMPANY

Export Distributors—United States Steel Products Company, 30 Church Street, New York, N. Y.

OIL WELL SUPPLY COMPANY

THE LORAIN STEEL COMPANY

TENNESSEE COAL, IRON & R. R. COMPANY

UNIVERSAL ATLAS CEMENT COMPANY

AMERICAN STEEL & WIRE COMPANY WIRE ROPE

Meets Every Construction Demand

Only an outstanding degree of superiority in construction work, could have won an almost universal demand for American Steel & Wire Company Wire Rope. Ability to stand up under the most gruelling punishment—marked reduction in replacement costs—and constant dependability, are reasons why it is generally specified. Made by the American Steel & Wire Company—you are assured of dependable service and a rope exactly suited to your needs. Today—consult our nearest office or distributor.



American Steel & Wire Company American Wire Rope played an important part in building the Washington Bridge, Providence, R.I. The picture shows the work in progress.

1831



1931

AMERICAN STEEL & WIRE COMPANY

208 South La Salle Street, Chicago

SUBSIDIARY OF UNITED



STATES STEEL CORPORATION

And All Principal Cities

Pacific Coast Distributors: Columbia Steel Company, Russ Building, San Francisco

Export Distributors: United States Steel Products Company, New York



This advertisement, announcing the sale of 94 Fusion Welded Boiler Drums appeared in the September, 1931, issues of the technical press.

Now 150

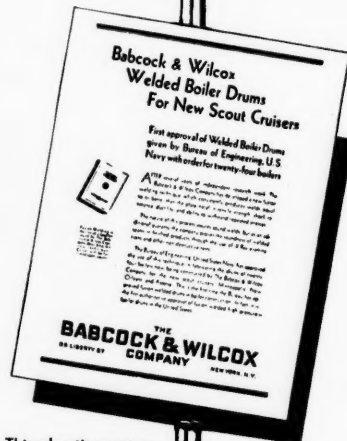
ONE hundred and fifty Babcock & Wilcox Fusion Welded Boiler Drums have been delivered or are under construction . . . conclusive evidence of the faith in The Babcock & Wilcox Company and its welding technique since the sale of 94 drums previously announced were for boilers not affected by the A. S. M. E. Code.

An analysis of these contracts discloses widely diversified interest in drums of this construction. Installations in over ten states will include Automotive . . . Alcohol . . . Institutional . . . Meat Packing . . . Metal Working . . . Paper . . . Steel . . . Tobacco . . . Vegetable Oil and Municipal Plants. The others will be used in one United States Navy Aircraft Carrier and in five Scout Cruisers.

The working pressures of these boilers vary from 150 to 500 pounds per square inch . . . those for the Navy delivering steam at 320 pounds while over half of the stationary boilers operate above 200 pounds pressure.

Six years ago The Babcock & Wilcox Company foresaw that the increase in the size and weight of boiler drums would make the substitution of fusion welding for riveting very desirable and in the interval . . . through research of the most fundamental and searching character developed the entirely satisfactory fusion welding technique announced in November 1930. The Company is now prepared to supply all of its boiler drums in accordance with the A. S. M. E. Code for Fusion Welding and strongly recommends this construction.

THE
BABCOCK & WILCOX
COMPANY
85 LIBERTY ST. NEW YORK, N. Y.



This advertisement, announcing the new Babcock & Wilcox Fusion Welding Technique appeared in the November, 1930, issues of the technical press.

Many and Varied . . are the Applications of ZINC CHLORIDE Treatment of Wood



ZINC CHLORIDE treated wood is rot-proof, termite-resistant and fire-retarding. Its long life and other advantages suggest its use wherever clean structurals or other timbers are desired.

Wood treated with zinc chloride is clean, odorless, paintable. It has many applications where wood preserved by other methods would be less suited, less attractive.

Among the many uses of preserved wood for which the zinc chloride treatment is today preferred are:

MILL TIMBERS	PLAYGROUND EQUIPMENT
MINE TIMBERS	CAR LUMBER
STRUCTURAL TIMBERS	BILL BOARDS
STADIUM SEATS	SIGN POSTS
ROOFING	FENCES AND FENCE POSTS
FLOORING	BRIDGES AND TRESTLES
STRINGERS	HIGHWAY POSTS
NAILING STRIPS	GUARD RAILS
ROLLER COASTERS	PILING

Send the coupon for authoritative, illustrated booklet on wood preservation.



Commercial treating plants are located conveniently near you. They are equipped to treat under pressure every structural or other timber you will require. Ask them to explain the economies resulting from Zinc Chloride treatment of wood. Write us for their names if you wish.

THE GRASSELLI CHEMICAL COMPANY
CLEVELAND Incorporated OHIO

Branches in Principal Cities

**Z GRASSELLI
INC CHLORIDE**
A Positive Preventive of DECAY in Mill Timbers

THE GRASSELLI CHEMICAL COMPANY
629 Euclid Ave., Cleveland, Ohio.

Please send me, without cost or obligation, your booklet, "Looking Ahead Twenty Years in Wood Utility."

Name _____

Address _____

City _____

State _____

DIRECTORY

ARCHITECTS

ENGINEERS

CHEMISTS

GEOLOGISTS

CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

J. B. Converse & Co., Inc.*Engineers*Industrial Investigations, reports,
plans, estimates, supervision.

MOBILE, ALA.

Milburn, Heister & Co.*Architects*

WASHINGTON, D. C.

Wm. J. J. Chase, A. I. A.*Architect*Public and Commercial Buildings
140 Peachtree St. ATLANTA, GA.**G. Lloyd Preacher & Co., Inc.***Architects and Engineers*501 Mortgage Guarantee Bldg.
ATLANTA, GA.**Elroy G. Smith***Consulting and Designing
Civil-Hydraulic Engineer*
Industrial Hydro-Electric Development
a Specialty
813-813-A Herald Bldg.,
AUGUSTA, GA.**Hornbuckle Contracting Co.**

INCORPORATED

Municipal Improvements
Industrial Village Utilities
ATLANTA, GA.**Wiedeman and Singleton, Inc.**

(Successors to Paul H. Norcross)

Consulting Engineers
WATER WORKS, SEWERS, SEWAGE
DISPOSAL, APPRAISALS, VALUA-
TIONS, REPORTS
Candler Building ATLANTA, GA.**J. Henry Hall***Engineer*Industrial and Public Utilities
Financing-Reorganization
Reports, Design, Construction
LEXINGTON, KY.**S. E. Huey***Consulting Engineer*Civil, Structural, Natural Gas
Ouchita Bank Bldg., MONROE, LA
City Bank Bldg., SHREVEPORT, LA.**J. E. Greiner & Company***Consulting Engineers*Design, Construction, Investigation, Ad-
visory Service—Bridges, Docks, Piers,
Warehouses and other Engineering
Structures.
1201 St. Paul St., BALTIMORE, MD.**Whitman, Requardt & Smith***Engineers*Water Supply, Sewerage and Structural
Engineering, Reports, Design,
Valuations.
Baltimore Trust Bldg., BALTIMORE, MD.
ATLANTA, GA. ALBANY, N. Y.**Hardaway Contracting Company***Engineers Contractors*Water Power Developments, Bridges
COLUMBUS, GEORGIA**Chas. T. Main, Inc.***Industrial Engineers*Mills, Warehouses, Complete Develop-
ments,
Electrical, Steam and Water Power
Reports Appraisals
301 Devonshire St. BOSTON, MASS.**Consoer, Older & Quinlan, Inc.**

Mems. A. S. C. E.

*Consulting Engineers*Water Supply—Sewerage—Industrial
Engineering
317 N. 11th St. ST. LOUIS, MO.
205 W. Wacker Drive, CHICAGO, ILL.**Kansas City Bridge Co.**

Established 1893

Builders of Railroad and
Highway Bridges
River Improvement Work
General Office, 215 Pershing Road (Union
Station Plaza), KANSAS CITY, MO.**W. S. Lee Engineering Corporation***Consulting Engineers*Hydro-Electric Developments, Central
Steam Stations, Industrial Building,
Institutional Buildings.
535 Fifth Avenue NEW YORK
Power Building CHARLOTTE, N.C.**MacElwee & Crandall, Inc.***Industrial and Civil Engineers*
Investigations, Reports, Design, Super-
vision—Port Development, Piers, Ter-
minals, Airports, City Planning, Water
Front, Reclamation, Industrial Surveys
Main Office: 11 West 42nd St.
705 Terminal Bldg. ROCHESTER, N.Y. NEW YORK CITY**Morris Knowles, Inc.***Engineers*Water Supply and Purification, Sewer-
age and Sewage Disposal, Valuations,
Laboratory, City Planning.
PITTSBURGH, PA.**Gardner & Howe***Structural Engineers*Steel and Reinforced Concrete Buildings,
Bridges and Viaducts
Porter Building MEMPHIS, TENN.**C. N. Harrub Engineering Co.**

Member Am. Soc. C. E.

*Civil and Sanitary Engineers*Water Supply, Sewerage, Paving and
Structural Improvements
705-9 Fourth & First Nat'l Bk. Bldg
NASHVILLE, TENN.**Engineering Service Corp.***Consulting Engineers*Civil-Electrical-Mechanical-Refrigeration
COLD and DRY STORAGE WAREHOUSES
DESIGNS
Reports—Appraisals—Designs—Surveys
Docks and Harbor Designs—Ind. Engr.
Water Sup.—Sewer Sys.—Oil and Gas Lines
HOUSTON, TEXAS, U. S. A.**Robert Cramer***Consulting Engineer*Sewage Disposal Plants and Sewerage
Systems—Utilization and Disposal of
Industrial Wastes, Power Plants,
Design, Construction, Operation, Labora-
tory Service, Valuations and Reports.
647 W. Virginia St., MILWAUKEE, WIS.**Algernon Blair***Contractor*

MONTGOMERY, ALA.

**Smallman-MacQueen
Construction Co., Inc.***Engineers and Contractors*

BIRMINGHAM, ALA.

The John W. Cowper Co., Inc.*General Contractors*843-851 National Press Bldg.,
WASHINGTON, D. C.**Walker Electrical Company***Electrical Contractors*General Offices: ATLANTA, GA.
Sales Offices:
ATLANTA, GA. COLUMBUS, GA.
GREENSBORO, N. C.**Hoosier Engineering Company**

30 North Wacker Drive, CHICAGO

*Directors of Transmission Lines
Electric—Gas—Oil*
Thompson Building 225 Broadway
SEATTLE, WASH. NEW YORK, N. Y.**J. V. & R. T. Burkes, Inc.***General Contractors*

MEMBER A. G. C. NEW ORLEANS

Webb Electric Company*Electrical Contractors*Industrial, Commercial and Institutional
Electrical Installations.
ANDERSON, S. C.**Fiske-Carter Construction Co.***General Contractors*GREENVILLE, S. C.
SPARTANBURG, S. C.**Poe Piping & Heating Co.***Contractors*For Power Piping, Heating and
Sprinkler Systems
108 S. Main St. GREENVILLE, S. C.**Steel & Lebby**

JOHN A. STEEL, JR.

THOS. D. LEBBY

*Engineers and Constructors*The design and erection of concrete and
steel structures.
Holston Bank Building,
KNOXVILLE, TENN.**The Warner Service Company***Electrical and Mechanical**Contractors*Cor. Clinch and Central Ave.
KNOXVILLE, TENN.**Byllesby Engineering & Management Corporation***Wholly-owned Subsidiary of
Standard Gas and Electric Company*

281 South LaSalle Street, Chicago

NEW YORK

PITTSBURGH

SAN FRANCISCO

Lockwood Greene Engineers, Inc.*Plans—Specifications—Reports—
Appraisals—for Industrial Plants*

NEW YORK

BOSTON

CHICAGO

CLEVELAND

SPARTANBURG

Charles W. Alpaugh & Sons*Hydraulic and Construction Engineers*Dams a Specialty: Investigations,
Estimates Free

MANASSAS, VA.

Virginia Engineering Co., Inc.*General Contractors*Government — Municipal — Industrial
Buildings — Power Plants — Heating
Plumbing — Electrical — Highways
Sewer and Water Systems — Dams
Fire Protection — Refrigeration
1st Nat'l Bk Bldg.
NEWPORT NEWS, VA.**Audit Company of the South**

Charles James Metts

*President*Mem. American Institute of Accountants
Certified Public Accountant of Georgia
ATLANTA, GA.**Joe B. Martin***Quantity Surveys*

CHARLOTTE, N. C.

Sixteen Years Actual Experience

Charles Herbert Spring*QUANTITY SURVEYS*835 Jefferson Standard Bldg.,
GREENSBORO, N. C.**The Howard-Hickory Co.***Nurserymen*

Landscape Gardeners

Correspondence

solicited
HICKORY, N. C.**The Picard Laboratories***Chemists and Inspecting Engineers*
Inspection of Cast Iron Pipe, Structural
Steel, Cement, Railroad Equipment, etc.
Chemical Analysis of all kinds.
Representation in all Principal Offices
Clark Building, BIRMINGHAM, ALA.**Stillman & Van Siclen, Inc.***Chemists and Chemical Engineers*
Analysis and Inspection of Asphalt,
Paving Materials, Cement, Concrete
Building Materials.
227 Front Street NEW YORK
BECKMAN 5261**Dow & Smith**A. W. Dow, Ph.B.; F. P. Smith, Ph.B.
Mem. Am. Inst. Ch. Engrs.
Mem. Am. Soc. Civ. Engrs.
Chemical Engineers, Consulting Paving
Engineers, Asphalts, Bitumens, Cement,
Paving Materials
131 East 23rd St. NEW YORKFAMILIARIZE yourself
with the SOUTH'S prog-
ress by reading the MANU-
FACTURERS RECORD.

DIRECTORY

ARCHITECTS

ENGINEERS

CHEMISTS

GEOLOGISTS

CHEMICAL ENGINEERS

ACCOUNTANTS

CONTRACTORS

Detailed classification of specialized work undertaken by those having cards in this Directory will be found in Classified Index.

The J. B. McCrary Company

Engineers

ATLANTA

GEORGIA

MUNICIPAL IMPROVEMENTS

We design and construct Water-Works, Electric-Light and Sewer Systems—Paving and Road Work.

Southern Drilling Company

Diamond Core Drill Contractors

Foundation Testing for Buildings, Bridges and Dams
Exploration and development of coal and mineral properties.

SALTVILLE, VIRGINIA

W. S. BARSTOW & COMPANY

INCORPORATED

ENGINEERING — DESIGN — CONSTRUCTION
INDUSTRIAL PLANTS — PUBLIC UTILITIES

Consultation Invited on Building Projects

120 Wall Street
NEW YORK CITY412 Washington Street
READING, PENNA.

Frederick Snare Corporation

Contracting Engineers

Difficult Foundations and Engineering Problems a Specialty

114 Liberty Street
New York

PHILADELPHIA

HAVANA

The J. G. White Engineering Corporation

Engineers—Constructors

43 Exchange Place

NEW YORK

Tucker & Laxton

Contracting Engineers

Filters, Concrete Work, Hydro-Electric and Steam Electric Construction
CHARLOTTE, NORTH CAROLINA

Cornell-Young Company

INCORPORATED

General Contractors

Railroads and Highways, Reinforced Concrete and Steam Shovel Work.
704 Georgia Casualty Bldg. MACON, GEORGIA

J. E. Sitrine & Company

Engineers

Factory Design: Hydro- and Steam-Electric Plants; Warehouses.
Steam Utilization, Sewage Systems, Appraisals, Valuations, Reports.
General Offices: GREENVILLE, SOUTH CAROLINA

IF you wish to keep posted on the progress of the South, read the MANUFACTURERS RECORD.

Allen J. Saville, Inc.

ENGINEERING AND CONSTRUCTION

Electric Building

RICHMOND, VIRGINIA

WILEY & WILSON

Consulting Engineers

STEAM AND ELECTRIC POWER PLANTS

CENTRAL PLANT HEATING SYSTEMS

Heating and Ventilating Equipments for Public and Private Buildings

WATER SUPPLY, SEWERAGE AND SEWAGE DISPOSAL

MAIN OFFICE: LYNCHBURG, VA

BRANCH OFFICE: RICHMOND, VA

Kennedy-Riegger Drilling Co., Inc.

Engineers & Contractors

Diamond Drill & Wash Borings

30 Church Street

NEW YORK CITY

Sprague & Henwood, Inc.

Diamond Core Drilling and Wash Borings.

For Buildings, Bridges, Dams and all kinds of Minerals

"ANYWHERE"

Main Office

SCRANTON, PA

Mott Core Drilling Company

Diamond Core Drill Contractors

We Test Coal, Clays and Mineral Properties, Foundation Testing, Dams, Bridges, Buildings, Wash Borings, Dry Samples.

MAIN OFFICE

HUNTINGTON, W. VA

Tilghman Moyer Company

Bank Architects and Builders

ALLENTOWN

PENNSYLVANIA

Robert W. Hunt Company

ENGINEERS

Inspection—Tests—Consultation

22nd FLOOR INSURANCE EXCHANGE, CHICAGO

Laboratories and Offices in all Large Cities

Established 1881

Froehling and Robertson, Inc.

Inspection Engineers and Chemists

Inspection of Cement, Steel, Pipe, Timber, Brick, Tile
Design and Control of Asphalt and Concrete Mixture
Water Analysis a Specialty.

RICHMOND

NEW YORK CITY

Pittsburgh Testing Laboratory

ANALYSIS

INSPECTION

TESTING

RESEARCH

PITTSBURGH, PA.

Branch Offices in the Principal Cities

Southwestern Laboratories

Chemical and Testing Engineers

Inspection Steel and Cement for Bridges and Buildings. Creosoted Timber.
Asphalt, Brick, Cast Iron Pipe, Railroad Equipment, Bituminous Pavement
at Plant, Chemical Analysis, Etc. Representation at usual points of origin.
PORT WORTH DALLAS HOUSTON AMARILLO SAN ANTONIO

WE LOOK INTO THE EARTH
By use of Diamond Core Drills

We test foundations for buildings, bridges and dams. We prospect coal and mineral lands in any part of North and South America.

PENNSYLVANIA DRILLING CO
1201-1215 Chartiers Avenue
Pittsburgh (Elliott), Pa.

DRILLING CONTRACTORS



ROLLER CHAINS

Make Another CONVERT

FOR many years we have been telling power users that Roller Chains are superior to other types of drives.

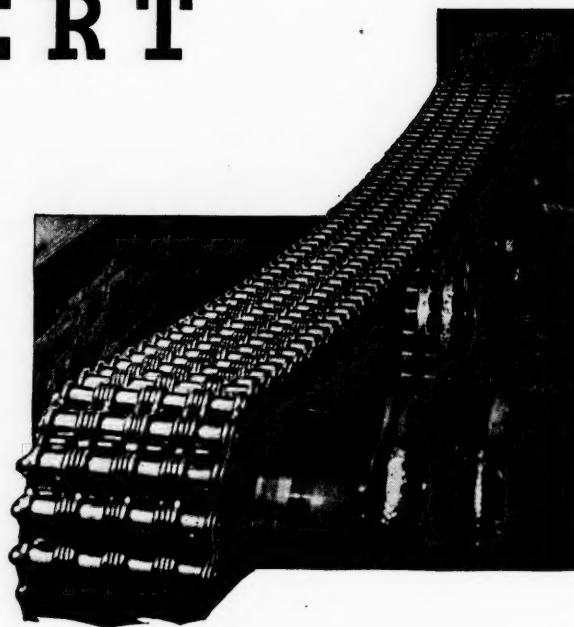
- Every day some production executive convinces himself that we are right and, abandoning his ancient prejudice in favor of inverted tooth type chains, adopts *roller chains* for his high speed drives.

- AND NOW—another leading manufacturer of Inverted Tooth Chain has become convinced of the merits of Roller Chains and is beginning their manufacture.

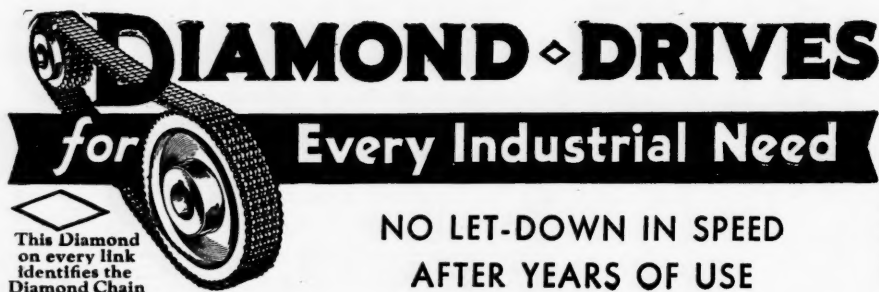
- We welcome the Morse Chain Company to the Roller Chain Industry and thank them for the compliment implied in their subscribing to our oft-repeated statement that

**ROLLER CHAINS WILL SOLVE YOUR
TRANSMISSION PROBLEMS**

DIAMOND CHAIN & MFG. CO., INDIANAPOLIS, IND.



FOR OVER A QUARTER CENTURY Diamond Chain & Mfg. Co. has concentrated on the making of roller chain. Due to this concentrated study and effort, Diamond Roller Chain drives are in use in 112 major divisions of American industry. These applications blanket the full range of speeds and power capacities—from heavy duty service to that represented by the exacting requirements of automotive and Diesel engine timing.



**NO LET-DOWN IN SPEED
AFTER YEARS OF USE**

DIAMOND CHAIN & MFG. CO.
411 Kentucky Ave., Indianapolis, Ind.

Gentlemen: Please send me a copy of Booklet 102B, "Reducing the Cost of Power Transmission."

Name.....
Firm.....
Address.....
City..... State.....

(A-4200)

TABLE OF CONTENTS

Baltimore, Md., November 26, 1931

EDITORIALS

The Great Southern Market.....	Cover Page
Buy American Products.....	13
Danger of Standardized Education.....	14
Fall and Winter Building Urged.....	14
Policy for the Postal Service.....	15
Right of Private Business.....	15

NEWS and FEATURE ARTICLES

Southern Air Lines.....	By Harold Crary	16
Thread Finishing Plant Completed at Gastonia.....		18
The South's Intangible Asset.....	By George Garner	19
Developing Texas Industries.....	By W. E. Talbot	20
\$1,000,000 Building Program for Greensboro.....		21
Large Diesel-Powered Towboat for Inland Waterways.....		22
Rivers and Harbors Congress Program.....		22
Atlanta Plant Making Corrugated Fibre Board.....		23
New Lighting System at Owensboro, Ky.....		24
O'Henry Hotel Modernized at Greensboro, N. C.....		25
Motor-Bus Line Expansion in the South.....		26
Signs of Better Business.....		27

SPECIAL DEPARTMENTS

Construction, New Industries and Contracts, Beginning on Page 32

Iron, Steel and Metal Market.....	28	Machinery, Proposals and Supplies Wanted... ..	42
New and Improved Equipment.....	30	Industrial News	46
Trade Literature	41	Financial News	48

Classified Index for Buyers..... 62

Alphabetical Index to Advertisers..... 74

MANUFACTURERS RECORD

MAIN OFFICE
Manufacturers Record Building,
Commerce and Water Streets,
Baltimore, Md.

Published Every Thursday
by the
MANUFACTURERS RECORD
PUBLISHING CO.
FRANK GOULD, President

BRANCH OFFICES
Chicago—11 S. LaSalle St.
New York—901 Singer Bldg.

Subscription Rates: \$6.50 a year (in advance); six months, \$3.50; three months, \$2.00 to United States, Mexico, Cuba, Porto Rico, Hawaii and the Philippines. For Canada add postage \$2.60 a year. For other foreign countries add postage \$3.50 a year. Single copies, 20c.; back numbers, one to six months, 50c. each; over six months, \$1.00.

PUBLISHERS DAILY CONSTRUCTION BULLETIN AND BLUE BOOK OF SOUTHERN PROGRESS
Member, A.B.C.

LEADITE

Trade Mark Registered U.S. Pat. Office

For Jointing Cast-Iron Water Mains
Saves at Least 75%

Leadite Tested and Used for Over 30 Years
Leadite Joints Improve with Age

The Leadite Co., Land Title Bldg., Philadelphia, Pa.

No Caulking



WIRE

Special Quality for Stapling and Binding

Also WIRE for other purposes

ALSO

SCREEN WIRE CLOTH

Highest Quality
Guaranteed

Seneca Wire Mfg. Co.

Postoria Established 1905 Ohio
Southern Warehouses and Representatives
Atlanta—Tampa—New Orleans

WELDING WIRE



CLEAN, PRECISE CASTINGS

IRON, BRASS, BRONZE, ALUMINUM AND ALLOYS.
QUANTITY PRODUCTION. CONTRACT WORK.

The **RICHMOND**
FOUNDRY & MANUFACTURING CO. Inc.

Richmond • Virginia

MODERN MACHINE and PATTERN SHOPS.

"A Dependable Source of Supply"



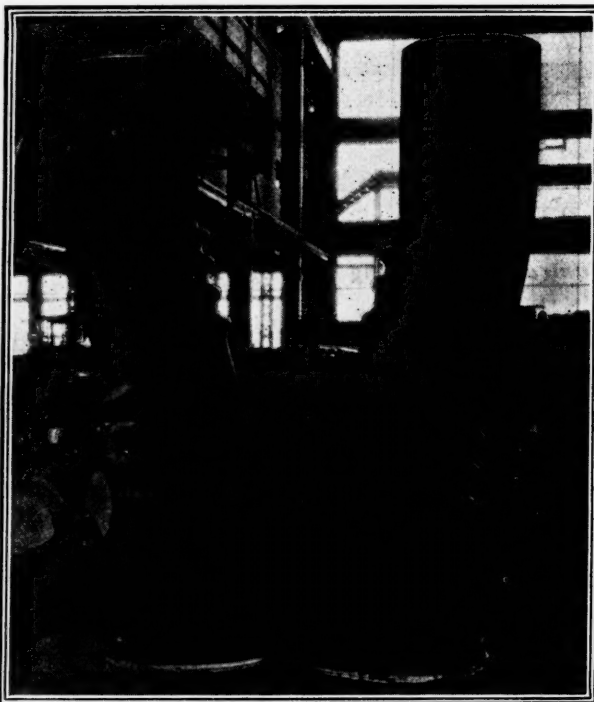
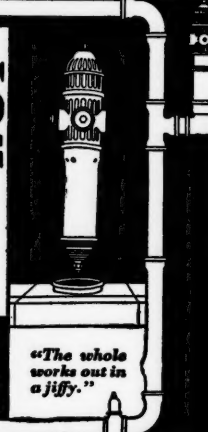
MATHEWS MODERNIZED HYDRANT

Reg. U. S. Patent Office

Operating Nut protected from rain, snow or dirt... completely revolving head.. broken hydrant cannot leak and easily replaced without digging or breaking pavement.

R. WOOD & CO.
PHILADELPHIA, PA. FOUNDED 1803

"The whole works out in a jiffy."



CREASED BENDS

... for POWER PLANTS

The photograph shows two CREASED offset bends made from 26" by 1/2" pipe. Each 95" long with an offset of 1' 1 1/8".

CREASED offsets were made because it was impossible to make the conventional type of plain offset bend to the above dimensions. Castings and angle bends also had apparent disadvantages.

CREASED BENDS can be made with shorter radii, and still retain the original wall thickness and full internal area of the pipe. For economical installation of difficult piping specify CREASED BENDS.

**PITTSBURGH PIPING
AND EQUIPMENT CO.**

43 RD ST. & A.V.R.R. PITTSBURGH, PA.



BRANCH OFFICES

Indianapolis New York
San Francisco Chicago
Cleveland Detroit
Houghton, Mich. Boston

Manufacturers Record

Reg. U. S. Pat. Office

Devoted to the Upbuilding of the Nation Through the Development
of the South and Southwest as the Nation's Greatest Material Asset

Vol. C No. 22 }
Weekly }

BALTIMORE, NOVEMBER 26, 1931

{ Single Copies, 20 Cents.
\$6.50 a Year }

Buy American Products

IN the November Efficiency Magazine, edited by Herbert N. Casson and published in London, are two items of interest to America. The thoughts expressed are intended to awaken Great Britain to the situation with reference to its export and import trade.

One item shows that British exports are successfully competing with American producers in America's most highly specialized and highly developed domestic trade territory. It is intended to inspire British manufacturers to develop fully the American market. It is a reminder to British producers that they can secure business in the United States, and it points to a large order filled recently for British machinery to be used in the Pittsburgh district, and to other products of British manufacture successfully competing in other industrial centers.

The second item was written as a warning to the British people against the continued penetration of foreign goods into their own local markets, in the past considered as impregnable against outside competition. The article is headed "Losing the Home Market" and we quote as follows:

"Every day ships come into our docks loaded with goods that British factories ought to be producing.

"In the first 8 months of this year the ships brought in 26,600,000 square yards of woolen and worsted cloth. What's the matter with West Riding?

"During the same time the ships brought in 63,142 dozen pairs of women's shoes from Czecho-Slovakia, besides 57,047 dozen pairs from Switzerland and 16,494 dozen pairs from Belgium. What's the matter with our boot and shoe manufacturers?

"In the same period the ships brought in 409,000 tons of iron and steel. What's the matter with our iron and steel makers?

"The ships even brought in £5,500,000 worth of cotton yarns and cloth. What's the matter with Lancashire?

"We may buy specialties from foreign nations. We may buy what we do not produce ourselves. But these goods are *staples*.

"When the ships bring in these goods, they put our

workers on the dole. They put our factories on short time or close them down. These incoming ships are making us poor."

Great Britain, since the recent election, is committed to a protective tariff policy. Duties as high as 50 per cent on many articles have been imposed.

That our American tariff does not wholly stop the importation of foreign goods is evident in the following figures, illustrating the extent of foreign competition with staple goods which American producers are fully capable of supplying American buyers:

For the 9 months ending September, we imported more than \$45,000,000 of edible animals and animal products. About \$9,000,000 of this total was for meat products, \$11,000,000 for dairy products and \$21,000,000 for fish. Of inedible animals and animal products, our imports reached \$136,000,000, including \$41,000,000 of hides and skins, nearly \$8,000,000 of leather, and \$17,000,000 of leather manufactures of which nearly \$6,000,000 was for 3,757,000 pairs of boots and shoes.

In the 9 months ending September, the United States bought at least \$150,000,000 of foreign vegetable food products which might well have been supplied by our own producers.

We spent \$303,000,000 for foreign textiles, including \$29,000,000 of cotton manufactures, more than \$33,000,000 for wool and wool products and \$30,000,000 for jute.

Nearly \$180,000,000 was spent abroad for wood and paper.

The value of our 9 months' imports of non-metallic minerals amounted to \$121,000,000, and metals manufactures except machinery reached \$113,000,000. Machinery imports were valued at about \$11,000,000.

For the 9 months, we imported about \$66,000,000 of chemicals and related products.

The foregoing represent some of the major items

sent to this country in direct competition with American products.

In the light of these facts we must watch every proposal to change our tariff policy. Without adequate protection, our home markets would be flooded with goods produced by cheap labor of foreign countries. Unemployment would be intensified, or labor costs in this country would have to be cut to a very low point.

The advice given to the British people that they should not buy anything produced abroad other than specialties and commodities they do not themselves supply may be taken by our own people.

America has achieved its greatness largely because more than 90 per cent of our business is done in our own country and this great domestic market should be jealously guarded and strengthened.

American money spent for foreign goods contributes to the upbuilding of foreign industries and creates employment for foreign labor. Money spent at home develops American markets and goes into the pockets of American workers.

Danger of Standardized Education

AFTER two years, President Hoover's National Advisory Committee on Education has submitted its report. A majority of the committee recommends the establishment of a Federal Department of Education, with its head to be a member of the President's cabinet. We are unable to follow the logic of this decision when the committee at the same time issues a warning against the encroachment of centralized authority in Washington upon what are purely state functions. The suggestions of the committee, that the activities of the proposed new Department of Education be limited to research and information service to foster cooperation with and among the states on educational matters, are obviously well meant. But knowing the history of other governmental departments and how they have spread their activities and increased control in various directions by departing from cooperative, fact-gathering functions for which they were first created, the MANUFACTURERS RECORD questions any plan the first step in which, however well meant and constructive, contains the possibility of leading to control of public education by the Federal government.

On this point, in an editorial in these columns on February 14, 1929, it was said:

"The Federal government was organized for the clearly stipulated purpose of performing those functions that the individual states could not perform for themselves—of which the conduct of foreign relations is an excellent illustration. Surely education is one subject in which every locality should have a lively interest and a voice. Never do we want to depend upon a Federal bureau for our ideas, or initiative, and our execution of plans for education.

"We should discourage any attempt to stifle local initiative and activity."

As Secretary of the Interior Wilbur said in 1929 when he voiced opposition to proposals that the Federal government allot additional funds to states for educational purposes:

"There is a distinct menace in the centralization in the national Government of any large educational scheme with extensive financial resources available.

"Abnormal power to mould and standardize and crystallize education, which would go with the dollars, would be more damaging to local government, local aspiration and self-respect and to state government and to state self-respect than any assistance that might have come from the funds."

And as Representative Black (Dem.) of New York is quoted as saying on November 17 this year:

"The Federal government should limit itself to essential services as conceived by the Constitution instead of creating new bureaus and new departments.

"Education is not a Federal function. The states have made great strides without Federal interference. A Federal department would standardize education and throw it into politics."

The plan to centralize public education under a Federal Department of Education long has been condemned by the MANUFACTURERS RECORD, which is not alone in recognizing the danger of standardized education and the inevitable national evils which would develop from placing control of American childhood and youth under bureaucratic domination.

If, as the Committee's report specifies, we need a clearing house of information for all state educational agencies, the present Office of Education should be reorganized to perform this function and it should stop all activities that would lead toward centralization of authority in Washington.

Fall and Winter Building

"BUILD now" is sound advice. As fall and winter advance, there are many reasons why it is advisable for home builders to start operations. With costs estimated to be lower now than at any previous time in the past 16 years, and 20 to 30 per cent below the average of the last ten years, the price should be most attractive.

Labor is plentiful and is giving better service than formerly. Wages in many sections have been reduced in keeping with commodity price levels, and money for building and modernization purposes is available on attractive terms.

Home construction should be a profitable undertaking this winter. Money invested in sound building projects, or in an individual home, is one of the safest of investments, and especially so now when construction costs are the lowest in years.

The South with its mild climate is particularly favored for carrying out construction work during the winter months.

Build now and save money is the advice of those best qualified to judge conditions.

Policy for the Postal Service

RENEWED suggestions for increases in postage rates, emanating from the Postoffice Department, direct attention to the pressing necessity for adoption of a definite national policy on the postal service, to make possible sound, constructive legislation by the Congress. The estimates of the department for the 1932 budget were: Service payable from postal revenue, \$735,000,000; deficiency payable from the treasury, \$114,000,000. The conduct of a business of such magnitude without a fundamental policy on which to operate, works actual harm to the taxpayer and to all American industry and trade and to the Government itself.

Whether the collection, transportation and delivery of the national mail is to be accepted as a service for which the people are willing to pay a reasonable charge each year, or is to be regarded as a business enterprise on a profit and loss basis, is the alternative at issue. Decision on this point is imperative for proper legislation, in which, of course, economical operation must be assured under whichever line may be adopted.

The position in which the Postoffice Department finds itself in the present depression illustrates the necessity for decision. In the face of a shrinkage in revenues from \$705,000,000 in fiscal 1930 to \$656,000,000 in 1931, the Government maintains the customary postal personnel at the regular salaries and in other ways continues a maximum organization for a subnormal volume of business. Also, it now costs the Government about \$75,000,000 a year more, exclusive of ocean and air mail subsidies, to handle the mail at present than in 1926, although the volumes of business are about the same.

On the whole, these points are arguments in favor of accepting the postal transportation as a service, rather than a profit and loss enterprise. While a private business concern well might take up slack by reducing personnel or wages, or applying other economies, that course may not be practical or of profit in an operation so highly specialized and complicated as the handling of the national mail.

The handling of the mail was regarded at the outset in America as a governmental service, much as in the days of the early Persians and Assyrians, the Aztecs, the Chinese and the Romans. This policy of service first was adopted in America in 1639 by the General Court of Massachusetts.

The mail service embraces some 50,000 postoffices and 500,000 miles of post routes. The parcel post forms an enormous express business and the postal savings system is a great banking enterprise. Opportunities for waste and extravagance are almost uncountable.

"Extravagant or unnecessary spending by the Government is a burden on business at any time," says Postmaster General Brown. "At a time like the present, it may become a substantial obstacle in the way of the Nation's speedy economic recovery." As long as Congress continues the practice of dealing

with postal expenditures and postal revenues separately and without regard to the relationship which, as a matter of good business, should exist between them, as the Postmaster General says, sound business operation hardly can be expected.

Right of Private Business

ON one point at least in the report of the Muscle Shoals Commission, representing the states of Alabama and Tennessee, the Federal Government and national farm organizations, the public is in agreement—that the Wilson Dam and fertilizer plant at Muscle Shoals should be operated by private interests rather than by the Government. It is a recognition of the rights of private business over Government competition; and yet, unless the terms of the proposed lease for 50 years cover ordinary charges which private industry must consider, interests securing the lease will in effect be subsidized at the expense of existing competing private business.

Whether the ultimate use of the Muscle Shoals development be for the production of fertilizer, chemicals or power; or their combination, as recommended by the Commission, any lease that is not economically fair to the public and to existing industries will be detrimental to national welfare.

The Commission recognizes that the Muscle Shoals development as now constituted is not capable of being utilized efficiently without additional expenditures by the Government. It, therefore, recommends the building by the Government of the up-river dam at Cove Creek and the equalization dam below the Wilson Dam. The costs of these suggested expenditures are to be amortized over a term of years.

Justification for the building of the Cove Creek dam is that it would enhance the value of the Wilson Dam and encourage the building by public utility companies of other high dams on the Tennessee river. Unless private business is assured of fair competition from the surplus power, if any, from a Government leased plant, it is hardly to be expected that public utility interests will develop power sites in that section. The question has been raised also whether, in view of the obsolescence of the fertilizer plant and the new and improved methods for making fertilizer which do not require large amounts of electric power, any private fertilizer interest, financially responsible and capable of carrying on the work, would undertake to operate the plant.

The MANUFACTURERS RECORD is in full sympathy with any equitable solution of the Muscle Shoals question that will assure the greatest development of the whole region. It does not believe the best interests of the section or the country will be served by the Muscle Shoals development being utilized without regard for the rights of existing producers of power, fertilizer or chemicals.

Southern Air Lines

THE twentieth anniversary of the air mail service recently called attention to the progress of that transportation system. Department of Commerce and Post Office Department records list 34 domestic and eight foreign contract air mail lines. Passengers and express also are carried over this network and numerous smaller lines carry only passengers.

Planes which carry air mail with or without passengers fly over 97,354 miles daily, over improved airways 50,052 miles long, provided by the Department of Commerce and equipped with aids to aerial navigation. Daily scheduled flying in the United States, including all lines, amounts to 151,604 miles, according to the Department of Commerce.

Sixteen of the domestic air mail contract lines operate over some portions

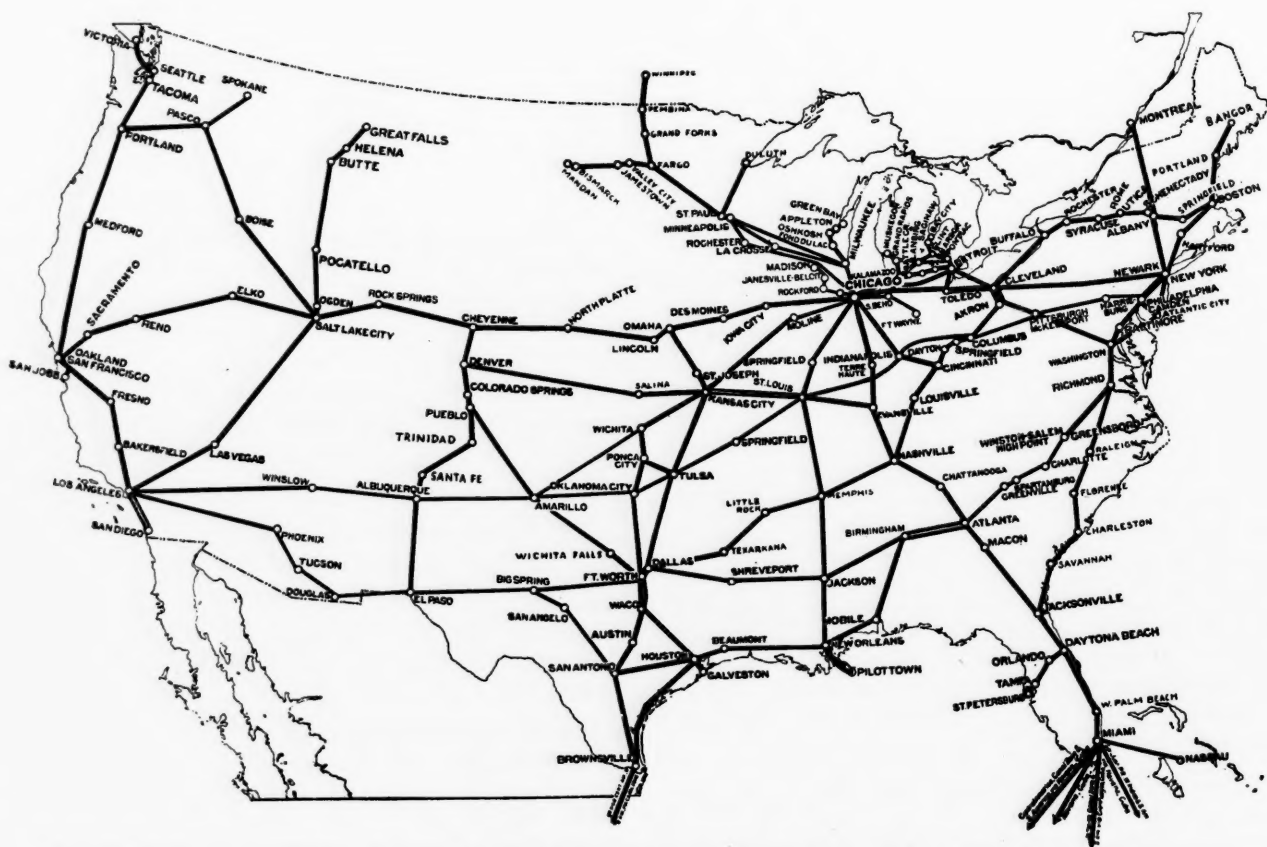
By
HAROLD CRARY
United Air Lines, Chicago

of their routes through the Southern States and two of the country's transcontinental air mail contractors operate through the heart of this Southern territory. The third major transcontinental route, between New York-Chicago and San Francisco, has one of its important feeder subsidiaries extended into the heart of the Southwest, into Dallas, Fort Worth, Tulsa, Oklahoma City and Kan-

sas City. This subsidiary, National Air Transport, is the pioneer air mail line of the Southwest, yet is only five years old.

The eight foreign air mail lines are operated, with one exception, between Southern seaports and Gulf cities and South and Central America. The time-saving made possible by this air line development is indicated in the fact that the transport plane flies at 125 miles an hour, while the fastest speed available in the steamship lines approaches 20 knots per hour, or 22½ miles.

Perhaps the first impetus to commercial air line development in the South and Southwest was given during the war, when, because of the necessity of training an army of military fliers almost overnight, a system of army training fields sprang up. Of these, Love



Air Mail System of the United States, Showing Concentration of Lines Around Cities of the South and Southwest
Recent statistics of the Department of Commerce reveal that planes carrying mail, with or without passengers, fly 97,354 miles daily over 50,052 miles of improved airway

Field, Dallas, remains today and appears on a map of the United States air lines as the hub of a wheel from which air routes radiate in all directions. Ten lines operated by several different companies now speed air mail and personal travel to and from Dallas.

To the North, Oklahoma City is two hours distant; Tulsa, three hours; Kansas City five, and Chicago nine. Through the Chicago gateway, New York is an additional six and a half hours distant. To the East, through St. Louis, Atlanta or Columbus, Dallas travelers can fly in one day, with a night on a connecting rail line. Letters are flown at night and Dallas communications mailed in the morning are ready for delivery in any city in the United States with the loss of only one business day.

Dallas, however, has not a monopoly in air service. On the air line map, other concentration points are noted at Kansas City, Tulsa, Oklahoma City and Amarillo, and lines extend into southern Texas to serve such cities as Galveston and Houston, Brownsville, San Antonio and Waco, while farther to the east the network extends to New Orleans, Little Rock, Memphis, Nashville, Atlanta, to southernmost Florida and along the Eastern seaboard, serving the major cities as far north as Boston and Montreal.

The extent of the air service today, as well as its elasticity in the matter of connecting schedules, are indicated by R. G. Parker of Denver in a letter to United Air Lines. Mr. Parker said that



Passengers Boarding Tri-Motor Plane at Dallas for 9-Hour Trip to Chicago, With Stops at Tulsa, Oklahoma City and Kansas City

In addition to 12 passengers, the big transport carries 1000 pounds of mail. It flies at 125 miles an hour

between May 3 and June 4, he traveled on regularly scheduled air lines from Denver through Kansas City, Chicago, Cleveland, New York, Washington, Atlanta, Birmingham, New Orleans, Dallas, Houston, Galveston, St. Louis, Kansas City, Denver, Cheyenne, Boise, Portland, San Francisco, Los Angeles, El Paso, Albuquerque, Tulsa, St. Louis, New York. The trip was approximately 8000 miles long and required only 72 hours flying time, against 300 hours by

surface methods. The cost, all factors considered, was within \$40 of surface travel, he found.

A check of passengers riding on United planes reveals representatives of almost every classification. An interesting feature is that, while salesmen and sales managers held first place numerically, manufacturers were a close second on the list. It has not been possible to ascertain what industry or business is the largest user of the air mail facilities, but statistics have been compiled which show that the value of negotiable papers arriving by air in the New York money market last year was \$6,000,000,000.

A noteworthy development made by the air lines with the assistance of governmental agencies has been in the number of improved and lighted airways and the consequent increase in the number of air miles flown at night. On the entire United Air Lines system, which extends from coast to coast, from New York to Dallas, and along the length of the Pacific Coast, 12,000,000 miles will be flown this year and slightly more than half that total will be flown at night, with both mail and passengers. Night flying equipment provided by the Department of Commerce consists of a line of revolving beacon lights of 1,000,000 candle power each, placed at intervals of approximately every 10 miles; radio ground stations, through which constant communication is maintained with pilots in flight; radio directive beacons, whose continuous dot and dash signals heard in the pilot's radio receiver keep him on his true course; weather bureaus located at strategic airports, providing frequent weather data, and



Tri-Motor Transport of United Air Lines Flying Over Tulsa, Enroute to Oklahoma City and Dallas

lighted intermediate landing fields spaced approximately every 30 miles.

Speeding up the nation's travel and communications, the air line network may be regarded as one of the most important and dependable transportation assets.

\$2,500,000 Power Bonds

Augusta, Ga.—Erection of an electric power plant and distribution system is assured by authorization of a \$2,500,000 bond issue for the purpose by the City Council. The bonds will constitute a mortgage on the proposed plant and system, not a general lien on the municipality. A Diesel engine plant will be erected first and a hydro-electric plant, later.

Forward March!

With industries reporting improved conditions, and with establishment of agencies for liquefying frozen assets, the manufacturer should now make a whole-hearted effort to resume his place in the van of national operations, states J. P. McGrath, secretary-treasurer of the Georgia Manufacturers' Association, Atlanta. Further, said Mr. McGrath:

"The South was the last to get the effect of the panic feeling that obsessed the nation for the past 18 or 20 months, and it now has a chance to set a great example to the rest of the country. The construction programs of state and national origin will throw quick capital into the building of roads and new structures. Insurance companies and financial institutions are offering great advan-

tages to those agriculturists who will go back to the farms. The manufacturer, wholesaler, jobber and retailer, are all set to produce and distribute new products at attractive prices. Labor, in a large measure, has realized the war is over and it is now its turn to cooperate. In spite of those who are blocking the wheels of progress by insisting on maintenance of wage scales, not balanced by buying power of the wage dollar, we are now in shape for the forward march. It is a complete program.

"Preparatory to a general resumption of production, it is advised that regular employees not now working be used to do that odd job around the plant that has been needing attention. Paint is cheap, and labor will appreciate a chance to touch up that fence or that building needing freshening. Also, there are many other little chores that can be done now. Remember, charity begins at home."

Thread Finishing Plant at Gastonia

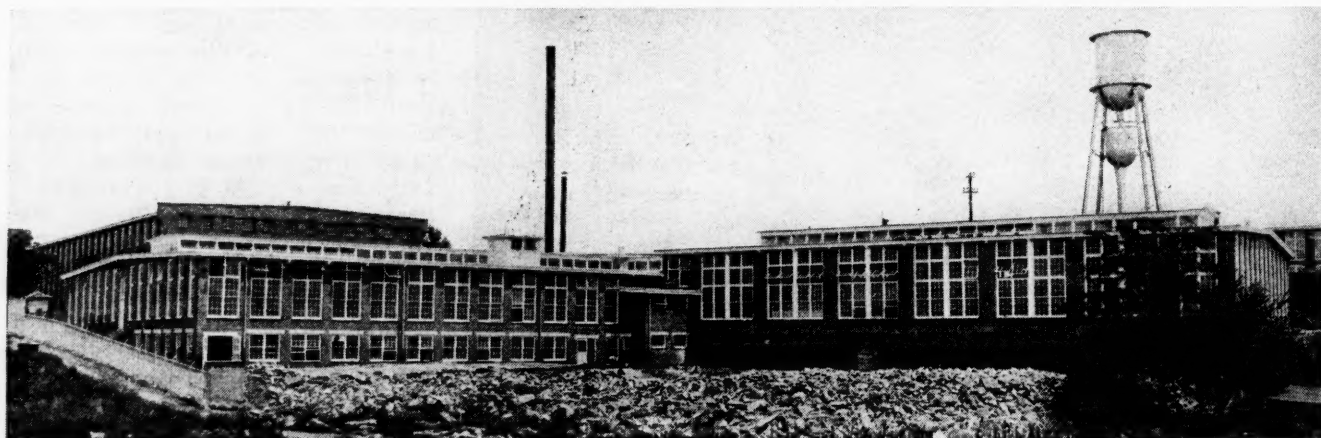
Finished sewing thread is now being supplied direct to the trade from the new bleaching, dyeing and finishing plant of the Groves Thread Co., Inc., at Gastonia, N. C. The new plant, estimated to represent an expenditure of \$250,000, contains 50,000 square feet of floor space and is constructed of brick and wood beams, with concrete flooring in the dyeing house and maple flooring in the finishing department. An Edge Moor water tube

boiler equipped with a Riley stoker has been installed, to increase boiler house capacity.

Available weekly production in the finishing and dyeing plant is 50,000 pounds, and according to E. E. Groves, treasurer of the company, part of this production consists of job dyeing and bleaching and a part of it is thread dyeing and finishing. It is expected that 100 additional operatives will be employed. Operations are now well under way. The threads are

produced in adjacent spinning units of 30,000-spindle capacity.

A. H. Guion & Co., Gastonia, was contractor for erection of the plant. Among the organizations furnishing equipment, which includes dyeing, bleaching, gassing and glazing machinery, were: Universal Winding Co., Boston, Mass.; Giles Dyeing Machinery Co. and Philadelphia Dyeing Machinery Co., both Philadelphia, Pa.; A. W. Buhlmann & Co., New York; and Cocker Machine & Foundry Co., Gastonia.



In This New Plant of the Groves Thread Co., Inc., Gastonia, N. C., Operations Include Bleaching, Dyeing and Finishing

The South's Intangible Asset

By GEORGE GARNER, Editorial Staff, MANUFACTURERS RECORD.

I AM writing of the South as an individual, and free from the inhibitions of editorial utterance. The spirit of the South, as I have seen it in three visits since April, impresses me more as an American citizen than as a professional chronicler of facts or of editorial thoughts and comments.

The cheerfulness with which the people of the South are enduring the miseries of the prevailing depression will prove ultimately an outstanding factor in the inevitable improvement in conditions. In itself, this cheerfulness is delightful; in comparison with the spirit in some other areas, it is a redeeming trait in the national disposition.

"How is business?" one asks the average man in the South.

"Well, it isn't what it might be; but, it will improve in time, and we're not suffering privation in the meanwhile," is the composite answer of a score.

Economic morticians are scarce in the South; there is no crepe on the doors of the factories or stores, or banks or amusement houses.

When nearly 34 per cent of the American people, occupying almost 32 per cent of the country's area, are courageous and cheerful, that courage and cheer must prove contagious and leaven largely the entire land.

In the cotton country, the growers, large and small, gave no evidence of the penury supposed to be imposed upon them by the low price of the staple. Ten-cent cotton would delight them, and 15-cent cotton would cause great joy; yet, six cents squeezes no tears from their eyes, nor evokes aspersions upon Providence. Smiles come readily to the growers' faces, and frowns are mighty infrequent.

It is a fact that, due to especially favorable growing conditions, the crop this year in many parts of the South produced nearly 50 per cent yield per acre more than the average, so that the growers have more cotton to sell, even though the price per pound be less.

The stores, large and small, are doing business, and apparently at some profit. Curtailment of trade income is balanced by such factors as small inventories, consequent low interest charges and reduced insurance, and other sound points in economy which might be overlooked or even ignored in less stringent times. General merchandising has become a real study, and profitable merchandising is developing into a science.

On the local banker falls much of the burden in helping individuals and business concerns and entire communities through the unhappy days. There are

5000 state, or commercial, banks in the South, in round numbers, with about \$2,500,000,000 of individual deposits. The cheerfulness of the representative local Southern banker indicates confidence in the stability of his own institution, and belief, if not actual knowledge, that the people and the business enterprises in his jurisdiction are buttressed against wholesale loss or distress.

So it is that this cheerfulness runs through the individual plants in scores of industries. It is no exaggeration to say that the depression has brought the Southern employer and employe into a closer partner relationship than ever before has prevailed. Each recognizes his responsibility to the other and each feels that the other is striving to measure up to this responsibility. The doctrine of discontent, as expounded to me by a "liberal newspaper" representative from the North, on the train going down, finds few receptive minds among Southern workers.

As an American citizen, one is impressed by this American spirit in the South, more than by recitation of production volume in agriculture or industry. As long as this American spirit prevails among a third of the people, the Republic may be considered safe and sound.

World Cotton Production

Cotton production in the principal foreign producing countries in 1931-32 will total 600,000 bales less than in 1930-31, according to information received by the Bureau of Agricultural Economics. The November 1 estimate of the United States cotton crop, however, showed an increase of 619,000 bales over the October 1 estimate and a probable 1931 production of 16,903,000 bales. This compares with a 1930 production of 13,-

932,000 bales, a five-year average production of 15,268,000 bales and the record 1926 crop of 17,977,000 bales. An indicated yield of 197.8 pounds of lint cotton per acre on the 40,889,000 acres estimated on September 1 to be harvested this year was reported in the November 1 report as against 147.7 pounds per acre last year. Ginnings to November 1 were 12,129,546 running bales compared with 10,863,896 bales at the same time in 1930. Total production in the 8 countries (United States, China, Russia,

Egypt, Brazil, Mexico, Chosen and Tanganyika) which have reported to date is placed at 23,158,000 bales compared with 20,528,000 bales a year ago.

Push Clay Plant Plans

Charleston, Miss.—Plans have been developed by the Mississippi Clay Co., Inc., for construction of a ceramic plant here. J. W. Saunders is president of the company. Early completion is expected.

Developing Texas Industries

IN August, 1929, sentiment developed in the Southwest for a definite plan that would build an industrial structure to parallel our agricultural enterprise, and consume one from the other. The four major industries of the area—agriculture, railroads, oil and manufacturing—were considered susceptible to greater development. We were shut off from the profit between the raw material and the finished product. At my own expense, I made a detailed survey of the conditions in Texas, and determined to try to correct our condition.

Owing to the fact that our raw materials—in which Texas ranks first in oil, gas, wool, cotton, mohair and other products—had been sold for a profit for many years, our people had given little thought to manufacture and the benefits that could accrue from the additional profits available. Study of our manufacturing plants showed a deplorable lack of patronage from our own people, and the resultant necessity for going far afield, at large expense, to sell their commodities. In Texas, a state ranking first in production of cotton, not a single cotton suit ever had been made for commercial sale. I went to a manufacturing plant and had cotton suits made for use in my gubernatorial campaign last year. Texans were the leaders in production of hides, but not a dress shoe ever had

* Col. Talbot is managing director of the Southwest Industrial Development Bureau, a non-profit service institution sponsored by the Southland Life Insurance Co., Dallas.

By

W. E. TALBOT*

Dallas

been made in the state. I went to a concern who made boots, and in their confidence in my ability to sell Texas-made shoes to the people of Texas they went into the manufacture of dress shoes. I also approached manufacturers of

At the end of the gubernatorial campaign there was such demand for this work that I have continued it under the name of the Southwest Industrial Development Bureau, a non-profit bureau, dedicated to the development of the movement. I have now made 246 speeches in Texas on this subject, and have engagements ahead for approximately 40 more.

Many communities do everything to bring in a new industry, but forget those they already have. I have devoted most of my time to trying to build up those already here. The plant which I started

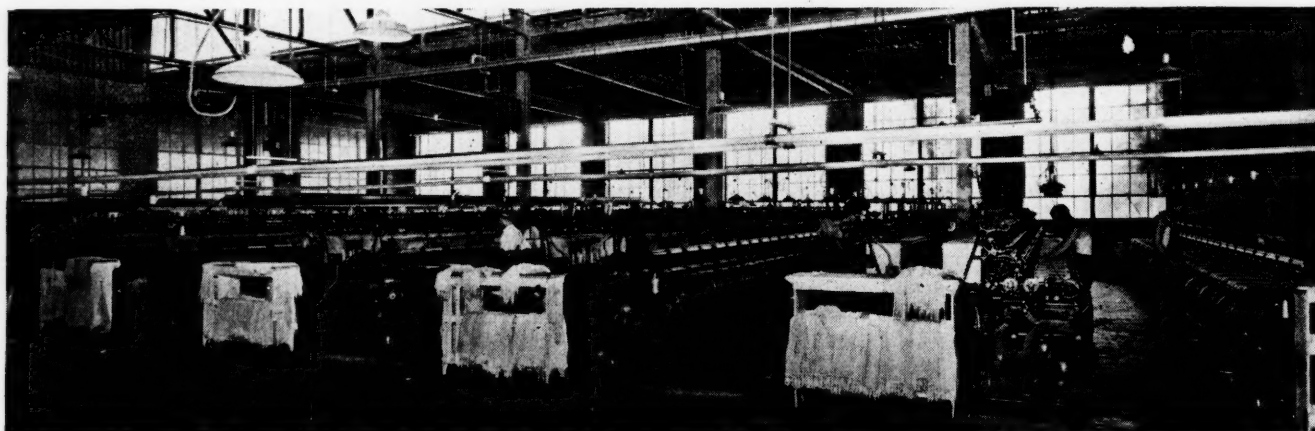


H. J. Justin & Sons, Inc., of Fort Worth, Manufacture Shoes

About 200 pairs daily are produced, and marketed throughout the Southwest. The working force has been steadily increased and numbers about 80 people

woolen clothing, as well as belts and other accessories, with similar results. They were converted to the idea of selling Texas-made goods using Texas raw material.

to making cotton suits increased its employes from 150 to 600 and has not caught up on its orders. We shall have three more plants making cotton suits for the 1932 season. Our shoe concern



Baker-Moise Hosiery Mills, Dallas

In this plant is produced a high grade of ladies silk hose. New machinery has been installed recently at a cost of \$100,000

not only developed a good business in Texas, but also is shipping out to other states. With a potential sale of 12,500,000 pairs annually in Texas, we could have 15 to 20 more shoe factories in this state. Our ready-made wool clothing manufacturer is running from 300 to 400 suits per week, and we have three other concerns getting ready to start in the near future. In wash dresses, we have shown an increased production for the year—in fact, we are shipping to points in the North where we formerly purchased such garments.

We have today in Texas every article of clothing manufactured for a man except a straw hat, and a concern is now getting ready to manufacture these. We can supply women and children with everything but shoes. Our food manufacturing plants have shown a great increase. Indeed, there are very few manufacturing industries in Texas today

cents. After passing through the cutting plant, that pound of cotton represents \$1.55. This means payrolls added to the cost of the raw material—payrolls that are retained in our own community.

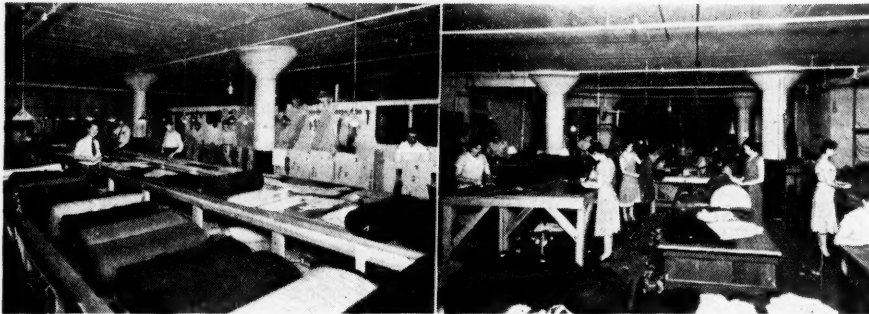
One result is that our Texas people today are buying our own manufactured products. A department store in Dallas recently had a Texas-manufactured shirt laundered 26 times, to compare it with shirts manufactured elsewhere and at the end of this investigation an order was placed for 590 dozen. Most of the leading food chain stores, during September, featured Southwest manufactured products, and their sales increased materially through introduction of these goods. The people today demand Southwest manufactured products, and we are daily sending out to merchants lists of places where articles in their particular line can be obtained. This means that a new industry is almost assured success

pany now has taken over the expense of the Southwest Industrial Development Bureau, as a contribution toward the development of the Southwest. Our direct appeal to the people has proved sound and is bearing results. Texas has gone to work with redoubled vigor and confidence.

\$1,000,000 BUILDING PROGRAM

Greensboro Projects Advancing

Greensboro, N. C.—Expenditures for construction projects in Greensboro approximate \$1,000,000. Most outstanding of the undertakings is the \$569,000 Federal building, for which contract was recently awarded to George H. Rommell Construction Co., Louisville, Ky. Next in size is the \$90,000 plant to be erected on High Point road by the Greensboro Coca-Cola Bottling Co. The Standard Oil Co. of New Jersey has acquired the Allen property at 610 West Market street where expansion of its filling station activities at Spring and Market streets will be carried out. On Spring Garden street the Atlantic Refining Co. now has a \$10,000 storage plant under construction. Conversion of two existing buildings on North Elm street for the Paramount theatre is also under way at a cost approximating \$10,000. The North Carolina Public Service Co., plans erection of an office building on a recently acquired site on North Elm street.



Higginbotham, Bailey, Logan Company, of Dallas, Manufacture Woolen Clothing

The total number of employees in all the factories of this company is about 1200

that are not showing a substantial increase.

Cotton today is selling around 6 cents a pound, but when we transform it into low count broadcloth, the price of that cotton increases to 24 cents. Then it goes through the gray mill finishing plant and its value is increased to 55

at the start. Recently a concern came in, making children's dresses; it is now about two months behind on orders and is installing 100 new machines. There are hundreds of other industries that we do not have in Texas, for which suitable locations could be found.

The Southland Life Insurance Com-

\$565,000 Reclamation Project

Plans for the Orange County (Texas) Conservation and Drainage District, which contemplate reclamation work involving expenditure of \$565,000, have been approved by B. F. Williams, state reclamation engineer at Austin, Texas.



Plant of the Pool Manufacturing Company at Sherman

This firm manufactures cotton suits, shirts, underclothing, socks, pajamas and neckties. The number of employees has been increased from around 150 to between 500 and 600

Diesel-Powered Towboat for Inland Waterways

THE new towboat of the Inland Waterways Corporation, the Herbert Hoover, is said to be the largest Diesel-powered towboat afloat. Built at Dubuque, Iowa, by the Dubuque Boat & Boiler Works, the boat is a twin-screw, tunnel-type vessel, powered by two 1100-horsepower McIntosh-Seymour Diesel engines. It is slightly over 226 feet overall length, with a beam of 43 feet 6 inches, and a depth at the side of 10 feet, an impressive white craft with three decks and two buff-colored funnels. The boat is capable of moving 10,000 tons of freight up stream against the Mississippi River current at a speed in excess of four miles an hour, making it possible to cover approximately 100 miles daily. In mechanical design, equipment and furnishings the boat is perhaps the most modern on the river, being intended for regular service between New Orleans and St. Louis.

This super towboat embodies many innovations in design and equipment. Prominently associated in the building of the craft were Maj.-Gen. T. Q. Ashburn, of the Inland Waterways Corporation, and his staff; the Dravo Contracting Co., Pittsburgh, and I. N. Davenport, secretary and general manager of the Dubuque Boat & Boiler Works.

The two McIntosh-Seymour engines are built on compact lines to insure low weight per horsepower. They are 4-cycle, 8-cylinder, air injection, with 20-inch bore and 24-inch stroke, with maximum rating of 1300 brake horsepower

and 230 r.p.m. They are direct reversible, reversing being done by air rams.

All generators, deck and underdeck motors and controls were supplied by the Westinghouse Electric & Manufacturing Co. Power is generated by two 75-kilowatt Westinghouse generators, direct connected to two Atlas-Imperial Diesel engines. A 15-kilowatt Westinghouse generator, powered by an Atlas-Imperial engine, furnishes power for lighting the boat when in port.

Two raw water pumps, two jacket cooling and two oil circulating pumps and a bilge pump, all built by Worthington and connected to Westinghouse motors ranging from 5 to 30 horsepower, comprise the pumping facilities. On the deck are two capstans, built by the American Engineering Company and operated by two 25-horsepower motors, and one deck winch connected to a 5-horsepower motor. Two A-E-C-O hydraulic steering gears are operated by Westinghouse motors, the gear for the after rudders being driven by a 25-horsepower motor, and gear for the forward rudders by a 15-horsepower motor.

There are two auxiliary compressors, and a stand-by emergency steam-driven compressor set. A Roberts water filter, with a daily capacity of 3000 gallons is included in the equipment. A small filter, supplied by the Precision Scientific Co., operates on 30 pounds pressure supplied by a small oil-fired boiler, which is also used to supply steam for heating and cooking, as well as for the laundry, for

air tank cleaning, etc. An oil-burning Webb range and all necessary auxiliary equipment are installed in the galley. A 2-ton Lipman ice machine is used for refrigeration.

In planning the cabins for officers and crew especial care was taken to provide for spaciousness, an abundance of light and air, and for general comforts. Accordingly, hot and cold running water is available in all cabins. There are 8 bathrooms. Steam heating facilities are available in the quarters, and an artificial electric lighting system has been laid out with a view to perfection.

National Rivers and Harbors Congress

The preliminary program announced for the 27th National Rivers and Harbors Congress, to be held at the Willard Hotel, Washington, December 8 and 9, includes the following:

Symposium, "The Future of Transportation"; Waterways, Roy Miller, active vice-president, Intracoastal Canal Association; Highways, Ivan Bowen, general counsel, Greyhound Lines, Inc.; Airways, F. R. Neely, chief, aeronautic information division, Department of Commerce; (Speakers for Railways and Pipelines to be announced).

"Federal Task in River and Harbor Improvement," Maj. Gen. Lytle Brown, Chief of Engineers.

"Federal Aid for an Improved Barge Canal," John F. Galvin, chairman, Port of New York Authority.

"Flood Control and Navigation," Riley J. Wilson, M. C., Ruston, La.

"Vanishing Rail and Lake Package Freight," George B. Wright, freight traffic manager, Detroit and Cleveland Navigation Co.

"The Great Southwest," Alex. W. Acheson, Denison, Texas.

"The Gulf-Atlantic Ship Canal," Col. Gilbert A. Youngberg, Jacksonville, Fla.

"The Lake Erie-Ohio River Canal"; Route No. 1, via Beaver River, Alex. W. Dann, chairman, Lake Erie and Ohio River Canal Board, Allegheny River Route, L. H. Gavin, secretary, Chamber of Commerce, Oil City, Pa.

"The Savannah River," Charles H. Brand, M. C., Athens, Ga.

Other speakers to be announced will cover the following subjects: "The Port of Baltimore," "Ports of the Northwest," "The Great Lakes," "New Orleans and the Valley."

Speakers at the banquet to be held on the evening of December 8 include:

Toastmaster, Patrick J. Hurley, Secretary of War.

"George Washington, the Builder," Sol Bloom, M. C., associate director, U. S. Bicentenary Commission.

"Audible Light" (with demonstration), Dr. John Bellamy Taylor, General Electric Co.



The "Herbert Hoover," Powered by Two 1100-Horsepower Diesel Engines

Atlanta Plant Makes Fibre Board

THE Gaylord Container Company of St. Louis, a pioneer in the corrugated box industry, some two years ago established in Atlanta, Ga., a small branch plant for the purpose of permitting closer contact with customers and to facilitate filling orders. Machinery was installed for the printing and fabrication of corrugated board received from the firm's Louisiana mill.

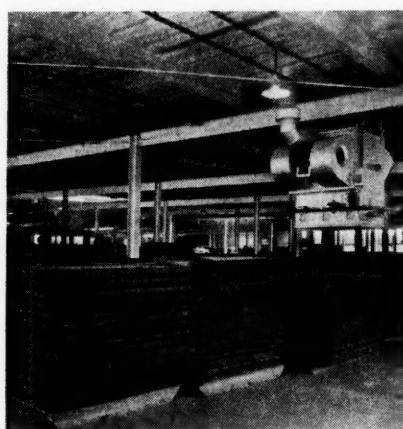
The original quarters proved inadequate after a time and additional available space in the building was occupied. Shortly thereafter even this added space proved insufficient and the firm decided

Uses Natural Gas for Heating Requirements and Has Capacity of 400,000 Square Feet of Corrugated Board Every 24 Hours

shipments, both by truck and rail are now available.

The factory building covers over 50,000 square feet of floor space. It is so arranged that raw materials enter at the northeast corner and pass along a carefully planned route, with the finished product emerging at the southeast corner ready for distribution.

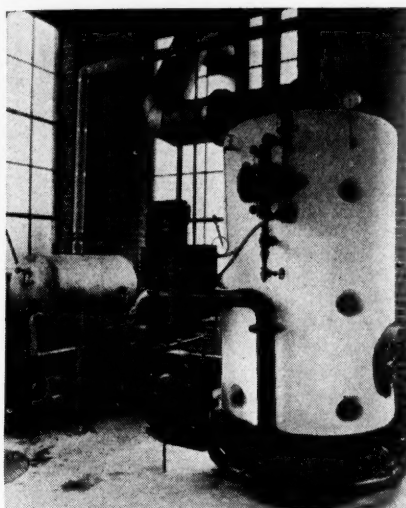
To convert rolls of paper into rigid fibre board, a Langston corrugating machine approximately 120 feet long was installed. To supply steam to this machine a 47-horsepower automatic gas-fired boiler, with feed water unit is used. The



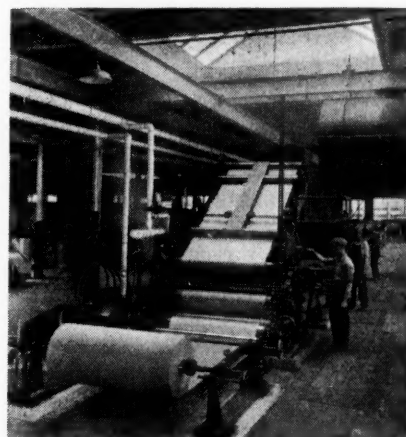
The Factory Is Heated by Four Circulating-Type Gas-Fired Unit Heaters

to erect a building to house a model manufacturing plant. Plans for construction were prepared and ground for the new plant was broken in the early part of July of this year. Sixty days later a daylight factory, designed accord-

ing to accepted engineering practices and modernly equipped was ready for production. Excellent facilities for handling



47-Horsepower Automatic Gas-Fired Boiler Used for Generating Steam



Corrugating Machine Which Converts Paper Into Fibre Board

gas boiler works at 150 pounds steam pressure and embodies a combination of blast burner and refractory bed, one of the latest developments in this type of equipment. Much attention was given to the heating, ventilating and lighting sys-



Exterior of Plant, Showing Attractive Terrace and Entrance to Office

tems selected. A circulating type, gas-fired unit heater, in addition to furnishing heat for winter months may be utilized as a cooling device in warm weather. Offices and rooms are provided with individual gas heaters. The selection of natural gas exclusively for fuel for all heating requirements was made after a comprehensive investigation by the Gaylord Engineering Department.

The new factory is capable of producing 400,000 square feet of corrugated board every 24 hours, and since completion has been running at capacity. The products manufactured by the Gaylord Atlanta branch are used extensively by bakeries, and in the textile industry and by canned goods manufacturers. The output is not limited however to these industries, and many diversified applications are continuously being developed.

Organized Sales Plan Brings Results

First results of a ten day intensive sales plan adopted by the International Fire Equipment Corporation are reported by President R. Hoyt Sloan as follows:

According to 25 salesman report cards received from nearby sections, on the first day 300 sales were made.

Fifty-one per cent of those called on were "interested" in the company's "Shur Line" fire protection equipment.

Sales were made to 30 per cent of those interested.

A total of 284 units valued at \$1187 were sold.

The average number of hours worked by each salesman was 8.6.

President Sloan, in commenting on the purpose of the plan under which the company's representatives throughout the country pledged themselves to make a ten-day drive to prove there is business to be had, says that many of the "call-backs" recorded will result in sales.

A record of each day's sales will be tabulated and submitted to representatives in order that a comparison may be made with results of sales efforts during the past three months.

The essence of the plan is to secure hearty cooperation of each salesman and to have him pledge to "give an honest day's work each day."

In inaugurating the plan, a series of daily bulletins was issued to the salesmen, leading to the conclusion that the way to start a real buying movement, conceded to be necessary to change conditions which have prevailed, was for salesmen to make a sustained effort.

Results of the first day's work are offered as evidence that business is to be had. Mr. Sloan states that the plan can be applied with few changes to any sales organization in the United States.

Owensboro's New Lighting System

The new white way system of Owensboro, Ky., comprises 174 lighting posts installed 8 to the block on 21 blocks throughout the city's business section. The posts are of cast iron, octagonal, 12 feet in height, in what is known as the State Capitol design, and with 6000-lumens Mazda lights in each standard. The system is 2-circuit series lighting, with insulating transformers in each standard, with disconnecting pothead. It is controlled by a switchboard at the municipal power plant, and by reason of being 2-circuit, half the lights can be turned off at midnight, the remainder

giving ample light for diminished traffic. The voltage underground is 5000, and at the insulating transformers 80 volts.

The posts were cast in Owensboro by the Owensboro Foundry Company, who also furnished all other materials. The glassware and the 10,000-volt transformers were manufactured by the Line Material Company, South Milwaukee, Wis. The 10,000-volt cable, wire, conduit and 6000-lumens bulbs were made by the Westinghouse Electric & Manufacturing Company. Complete installation was by local labor under A. L. Bishop, superintendent of the municipal power plant.

Owensboro's light and water plants are municipally owned and provide the city with service to the extent of many thousands of dollars each year. At the same time, profit from their operation has taken care of the cost of the plants, including extensions. In addition, upwards of \$70,000 in profits annually is turned over to general revenue funds, to that extent reducing the need for taxation revenues for carrying other departments of the municipal government that are not self-sustaining.

The electric plant represents an investment of over \$2,000,000, free of indebtedness. There has been no bond issue for improvements or extensions. The plant was started 30 years ago with an appropriation of \$50,000 from the general revenue fund of the city. Recent additions to the power system include: 40,000 feet of new and heavier service copper wire; 92 street lights; 118 poles set; 52 old street heads replaced, and 38 transformers replaced. A new boiler now being installed will add to the plant's capacity as well as effect a saving in fuel consumption. Early this year a duplicate line from the plant to the distribution system was completed.



One of the White Way Standards

Low Bids on Hospital

Washington, D. C.—Apparent low bid of \$543,900 was submitted for the additions at the St. Elizabeths Hospital by W. E. O'Neil Construction Co., Chicago. The work includes two continued treatment buildings, a dining hall and kitchen building, connecting corridors, plumbing, heating, ventilating, electrical work, special hospital equipment, and outside service connections. The Capitol Lift & Manufacturing Co., Columbus, Ohio, and W. F. Moody Co., Little Rock, Ark.,

were apparent low bidders on the elevator and refrigerating equipment, respectively.

Boiler Plant Equipment

Parkersburg, W. Va.—Contract for the boiler and pulverized coal burning equipment to be installed in the new boiler plant of the Viscose Company has been awarded to the Combustion Engineering Co., New York. The Ballinger Co., Philadelphia and New York, are engineers.

O'Henry Hotel Modernized

WITH the completion of improvements initiated some months ago, the O'Henry Hotel at Greensboro, N. C., with 304 rooms, each with bath, will have been renovated from cellar to attic, making it one of the modern hotels of the South. In March, 1931, the hotel was put in the hands of receivers. On August 1 it was purchased by J. M. Darden, president of Sands and Company, Suffolk, Va., for \$650,000. Subsequently the Darden-Bland Hotel Company, Inc., was organized and the hotel sold to that company, whose officers are as follows: J. M. Darden, Suffolk, president; T. L. Bland, Raleigh, N. C., vice-president and general manager; L. C. Vaughan, Greensboro, treasurer; A. L. Bland, Raleigh, secretary; J. M. Darden, Jr., Roanoke, Va., assistant secretary. With the officers, the following constitute the board of directors: H. W. Stephenson, Atlanta; Z. A. Snipes, Atlanta; and P. D. Snipes, Raleigh.

The company was organized with \$300,000 capital, and a large part of this money is being spent on improvements which include general rebuilding of the entire property. Every necessary repair to mechanical equipment is included in the program, which also calls for new furniture where necessary, rebuilding and refinishing of worn pieces; entire new set of kitchen fixtures; new carpets, linens, etc.

With the exception of Mr. Bland and his son, the others associated with Mr.

Darden in the hotel enterprise have been connected in business with him for many years. H. W. Stephenson of Atlanta has been associated with him for 40 years, and others from 15 to 35 years each.

The new hotel will be managed by the Associated Hotels, Inc., headed by T. L. Bland. Other hotels in the group include the following: Hotel Sir Walter, Raleigh, N. C.; Hotel Bland, Raleigh, N. C.; Hotel Robert E. Lee, Winston-Salem, N. C.; Hotel Zinzendorf, Winston-Salem, N. C.; Hotel Ricks, Rocky Mount, N. C., and Hotel Petersburg, Petersburg, Va.

Greensboro citizens who were responsible for the first hotel company decided that the name should be O'Henry in honor of the noted American short story writer, William Sidney Porter, who was born on West Market Street, Greensboro, September 11, 1862, and who worked in a drug store operated by an uncle, on the site where the hotel now stands. O'Henry's mother died when he was only three years of age. He was tutored by an aunt, and attended no other school. This tutoring ended when he had reached the age of fifteen. In 1882, when he was twenty, O'Henry moved to Texas, spending some time on a cattle ranch before beginning his journalistic career as a reporter on the Houston Post. Later he purchased Brann's Iconoclast, which he converted into a ten-page fiction weekly, naming it the Rolling Stone. He soon abandoned the venture and undertook a journey to Central America;

this trip proved in later years a mine from which he drew some of his best tales. O'Henry set about raising bananas on a large scale, but the venture proved unsuccessful, and he returned to Texas, where he lived a short time before moving to New Orleans when his literary work began in earnest. He remained there until he moved to New York in 1901. He died June 5, 1910.

To Broaden Safety Movement

A super-committee which will bring a new type of big business executive into active work in the safety movement has been announced. The new group is to be known as the Special Advisory Committee of the National Safety Council and its members are made up of heads of some of the best known corporations in the country.

Samuel Insull, Jr., of Chicago, will head the committee. It will include the presidents of three railroads: P. E. Crowley of the New York Central; Paul Shoup of the Southern Pacific and F. W. Sargent of the Chicago and Northwestern; also, Gerard Swope, president of the General Electric Co.; Alexander Dow, president of the Detroit Edison Company; Stuyvesant Peabody, president of the Consumers Company of Chicago; Sewell Avery, president of the U. S. Gypsum Co.; Richard K. Mellon, vice-president of the Mellon National Bank, Pittsburgh; H. H. Robertson, president of the H. H. Robertson Company, Pittsburgh; Frank J. Lanahan, president, the Fort Pitt Malleable Iron Co., Pittsburgh; Edward Dana, general manager of the Boston Elevated Railway; Robert M. Hutchins, president of the University of Chicago; and Harry B. Earhart, president, White Star Refining Company, Ann Arbor.

The new committee is to cooperate with the executive committee of the council in broadening the safety movement in all its aspects.



O'Henry Hotel at Greensboro, N. C., Renovated and Under New Management

Alexandria, Va. — A \$300,000 high school, requiring a bond issue of like amount, is proposed by the local School Board. Edmund F. Ticer is mayor.

Motor-Bus Line Expansion

AN indication of the growth of the motor bus industry in the South and Southwest is revealed by the expansion of the Camel City Coach Division of the Atlantic Greyhound Lines. The division is a consolidation with the Blue & Gray Transit Company lines of Charleston, W. Va., operating through West Virginia and into Pittsburgh, Pa., Columbus and Cincinnati, Ohio, and Detroit, Mich. The Camel City Coach Company operates from Richmond, Va., to Jacksonville, Fla., and from Roanoke, Va., Bluefield, W. Va., and Bristol, Tenn., through North and South Carolina to Columbia and Charleston, S. C., Augusta and Savannah, Ga., to Jacksonville.

This company formed and now operates the Old Dominion Stage Lines running from Washington to Knoxville, Tenn., and the Skyland Stages operating from Knoxville to Augusta, Ga. It is not a part of the Greyhound System, but has merely adopted the name of the Atlantic Greyhound Lines.

Initial operations of the Camel City Coach Company, chartered by business men of Winston-Salem, N. C., in January, 1926, included a line from Winston-Salem to Charlotte, 98 miles; and from Winston-Salem to Martinsville, Va., 64 miles. A little later a line was purchased from Winston-Salem to Mt. Airy, N. C., 36 miles, bringing the total route mileage to 198. Later, through purchases of other lines, operations were

extended from Winston-Salem to Greensboro, High Point, Lexington and North Wilkesboro. The company then took over operation in South Carolina with Columbia as the center, and with routes to Augusta, Ga., Florence, S. C., Rock Hill, S. C., and Charlotte, N. C., affording connections at that point with the North Carolina operations. Within the past two years operations have been extended from Greensboro, N. C., to Richmond, Va., and from Augusta, Ga., to Jacksonville, Fla., and from Columbia to Charleston, S. C., and Savannah, Ga.; also from Winston-Salem to Bluefield, W. Va., Bristol, Tenn., and Roanoke, Va., giving a route mileage of 2100 miles and a schedule mileage of over 12,000 daily, with an average of about 1800 persons handled each day.

Some time ago the company placed in service 13 new 29-passenger Yellow Coach Type "V" buses on the through run from Richmond to Jacksonville. In rearranging the schedule on this run, mileage was increased 260 miles per day. Each of the 13 new buses is making about 500 miles daily on regular schedule and averaging about 12,000 miles monthly.

Main garage and repair shop of the company is at Winston-Salem, and 28 men are employed on day and night shifts to handle all repair work, body rebuilding and painting. Besides, the company operates a garage and repair

shop at Columbia, S. C., Columbia being headquarters of the South Carolina, Georgia and Florida division. Six men are employed at the Columbia garage. Also, one or two repair men are on hand at the extreme terminals of the lines at Jacksonville, Augusta, Richmond and Bluefield to make minor repairs and inspections to insure equipment being in good shape for return trips.

All equipment is regularly inspected on a mileage basis. Inspections are made at 2000, 10,000 and 20,000 miles. When 20,000 is reached the buses are thoroughly overhauled.

The details here presented apply to the Camel City Coach Line only, and show its expansion in the past five years. Within the past 12 months the Camel City Coach Company and the Blue & Gray Transit Company of Charleston, W. Va., were merged; and later these two companies formed and began operating the Old Dominion Stages and the Skyland Stages. With these extensions and consolidated lines the system is able to handle passengers from Washington, D. C., to Knoxville, Tenn.; Knoxville to Jacksonville; Richmond to Jacksonville; Cincinnati, Detroit, Columbus and Pittsburgh to Jacksonville. Moreover, with interline ticket arrangements with other connecting carriers both North and South, the system is able to handle through passengers from all points from the Lakes, to Florida, to the Gulf of Mexico, and from the Atlantic to the Pacific oceans.

Speed Up Miami Dredging

Miami, Fla.—Approval of the Secretary of War has been given the recommendation of Maj. Gen. Lytle Brown, chief of engineers, that a contract be executed with the City of Miami to speed up the \$800,000 project for deepening the channel of the Miami River to 15 feet. Signing of the contract will eliminate the usual War Department procedure of advertising, tabulating and awarding bids, it thus being expected that work will be started within a month.

Width of the deepening will vary from 150 feet at the river mouth to 90 feet at the Seaboard bridge. The underpinnings of several bridges will be cut back and the power and light cables will necessarily be distributed. Spoil will be carried by barge out to sea or farther up the river. A local dredging company has agreed to do the work for \$720,000. The city will be repaid by the Government on a monthly estimate basis.

Approximately 100,000 acres of Everglades land will be made available for farming upon completion of the project.



One of the New Buses of the Camel City Coach Division of the Atlantic Greyhound Lines

Signs of Better Business

LUMBER ORDERS for the third successive week ended November 14, when new business was 24 per cent above mill cut, substantially exceeded the prevailing low level of production. Also, shipments were 18 per cent above the 136,644,000 feet cut by 826 leading hardwood and softwood mills reporting to the National Lumber Manufacturers Association.

ECKERSON CANNING Co., Sanford, Fla., has completed installation of modern machinery for a new citrus canning plant, and will begin operations shortly, working four shifts of six hours each daily, 200 persons to a shift. The plant will have a capacity of 2400 field boxes daily.

FIVE INDUSTRIES, either new or relocating for expansion purposes, have been announced for Tulsa, Okla., recently. These five institutions will employ approximately 150 persons. The annual payroll when operating at capacity will be about \$325,000 and the real estate involved represents an investment of \$250,000.

TRI-STATE TRIPOLI COMPANY, Miami, Okla., has completed a plant at Kansas City for milling crude tripoli taken from the company's quarries. The Tri-State Company has a 3-year contract to supply 50 tons of crude tripoli daily to the American Asphalt Co., manufacturers of asphalt shingles and roofing paper.

THE FURNITURE INDUSTRY is on a more stable price basis than it has been for the last three years. Stocks are low and the industry is preparing for increased activity by inaugurating the most intensive advertising and promotional campaign in its history.

FLORIDA CONTAINER CORPORATION, Tampa, in cooperation with its parent industry, Robert Gaylord, Inc., St. Louis, one of the country's largest paper box manufacturing companies, has completed a new plant for the Gaylord Container Co., at Atlanta. The company now operates seven factories throughout the United States. The new plant has been so erected as to permit of easy expansion. It will have a capacity of 60,000 to 80,000 corrugated boxes daily.

UPTURNS in the movement of nearly all items of commerce through the port of Galveston, Texas, were registered in October over preceding months of 1931. Chief among the commodities in which heavy increases are reported were: Cotton, grain, cottonseed meal, flour, lumber, sulphur and rice.

CANNON MILLS COMPANY, Kannapolis, N. C., announces that 100 men will be put to work shortly in constructing an addition to the sheet-finishing department. This building when completed will house operations requiring the employment of 150 additional operatives.

LAUREL MILLS, Laurel, Miss., have started full time operations with 385 to 400 employees.

CITRUS PACKING plants in the Titusville, Fla., section this year will give employment to hundreds of persons. The Nevins Fruit Co. and the American Fruit Growers Association have commenced operations. The Mims Citrus Growers Association, the Acme Fruit Co., and the Klingensmith Fruit Co., will open shortly.

STEEL MILLS in the Birmingham district, based on ingot production, have resumed a 30 per cent capacity schedule, brought about by resumption of the three open hearth furnaces of the Gulf States Steel Co. at Gadsden. Of the six open hearth furnaces there, two of 90-ton capacity and a 125-ton furnace are again making ingots. The Tennessee Coal, Iron & Railroad Co. has been operating five of its eight open hearth furnaces at Fairfield, Ala.

WORKERS on the payrolls of 673 Texas companies on October 15 numbered 79,215, representing a gain of 2.1 per cent over the total at the corresponding time in the previous month, according to the University of Texas Bureau of Business Research.

RIGGS, DISTLER & Co., Baltimore, within the past several months have received contracts totaling more than \$4,000,000 for heating, ventilation, air conditioning, plumbing and electrical construction in a number of large buildings now under way in New York, Philadelphia, Cincinnati, Baltimore and other cities.

COTTON CONSUMPTION INCREASED during October and for the three months ending October 31, compared with the corresponding periods of 1930. According to the Census Bureau, 462,000 bales were consumed in the country's cotton mills in October compared with 443,000 in October, 1930. Southern mills accounted for practically all of the gain, New England mills reporting a decline in consumption of over 8000 bales. For the three months ending October 31, cotton consumption in all mills amounted to 1,351,000 bales as compared with 1,189,000 bales for the corresponding months of 1930. In this period, the South consumed 1,096,000 bales or an increase of 146,000 over last year.

Active cotton spindles numbered 25,188,000 in October, 16,882,000 spindles being active in Southern mills and 7,272,000 in New England. Compared with October a year ago, New England reported a decrease of 779,000 active spindles, while the cotton-growing states showed a gain of 138,000 active spindles.

INTERNATIONAL MOTOR TRUCK registrations in New York City for the first nine months of 1931 show an increase of 56 per cent over those of the same period for the previous year.

THE FORD MOTOR COMPANY, according to the Alexandria (Va.) Chamber of Commerce, has purchased five acres of land for the purpose of erecting a plant in that city.

TEXAS CITRUS FRUIT GROWERS EXCHANGE is building new packing plants at San Carlos and Harlingen, Texas, and doubling the size of its main plant at Sharyland. Other companies are expending a total of approximately \$300,000 for new plants and for improvements to established enterprises.

CONSTRUCTION projects under way and planned in Charlotte, comments the Observer, indicates considerable activity, even before the Spring building starts.

BUILDING activity in Rock Hill, S. C., is indicative of improved conditions in that territory. The new Federal building under way, and dwelling construction and modernization have given employment to many workers.

IRON, STEEL AND METAL MARKET

Steel Maintains Its Pace

Pittsburgh, November 23—[Special.]—In the steel industry as a whole, production last week was unchanged from the two preceding weeks, at about 29 per cent of total ingot capacity. There was a marked decline in the Chicago district, offset by increases elsewhere, particularly in the Cleveland and Youngstown districts, the Chicago decline being attributed to lighter requirements of the structural fabricating shops, while increases elsewhere are attributed partly to automobile steel. The Pittsburgh district has been averaging about 30 per cent for several weeks.

The improved sentiment in business and financial circles so generally reported in the last few weeks appears to continue but it has not resulted in heavier demand for steel, speaking generally. In the last four weeks there has been an increase in steel production, probably somewhat over 10 per cent, but all or nearly all of this is attributed to increased requirements of a few consuming lines. Increase in demand is not universal or even widespread.

The steel market has much breadth, but little thickness or length, in that there is buying by nearly everyone, but the orders are small individually, representing thinness, while there is no covering for the future, giving the mills backlogs, which would represent length.

The farm implement industry is now running at a moderately fair rate, after months of almost complete idleness until some 30 days ago, but there is no evidence of plans for the future. Apparently the makers are simply watching the wheat and cotton markets. As to the automobile industry, any activity it may have during the next 60 days will be chiefly in making samples and stocks of new models, not reflecting the buying ability or disposition of the public, which will have to be disclosed later.

Fabricated structural steel business is poor, but it is claimed there is a large amount of work in contemplation, which may or may not come out in the near future according to developments. Actual lettings have been light for seven weeks, averaging about two-fifths the rate of lettings during the first half of the year. Shipments of the fabricating shops have been decreasing and order books are decidedly small. The chief expectation at the moment is in connection with the Federal building program.

Steel producers seem to be thoroughly convinced that the worst stage of the

depression is past, that the period of recession is definitely ended, and in this they differ from the views held by many in the securities markets and in financial circles. Steel producers hold that all adverse influences reducing the demand for steel have already worked themselves out into actual curtailment of demand and production. This is not to say that the present rate of production will be fully maintained week by week, as it is strictly seasonal for a decline to occur as the end of the year approaches. On the other hand, marked seasonal increase, beginning immediately after the turn of the year, is fully expected. This may easily be of more than usual seasonal proportions because some buying is being postponed. In particular, the railroads have not bought rails to any extent in recent months as they usually do at this time of year, and they are expected to purchase, on some sort of a reduced scale, early in the new year. Also it is thought some building projects are only temporarily postponed.

Finished steel prices continue to hold rigidly all along the line, which is not strange seeing that a cut price could bring in only a small order and would immediately become known generally. While the producers are showing losses, there are many, particularly among the ranks of buyers, who believe present prices would yield a little profit or a fair profit if demand were double the present volume.

Declines in Metals Prices

New York, November 23—[Special.]—Sentiment among the non-ferrous metals became less buoyant as the past week progressed. The most severe reaction was in silver which by Wednesday had dipped to 29¾c per ounce after selling ten days before as high as 37¼c, thus marking the end of the first phase of the speculative boom in this metal. Copper sentiment had weakened considerably by the middle of the week when Belgian copper company officials sailed for home without an agreement having been arrived at regarding the curtailment of production.

On Wednesday prices of all the metals fell sharply on the London Metal Exchange, particularly copper, registering disappointment in the failure of the conferences. However it is recognized that some drastic action may yet be taken, negotiations possibly to be continued by

mail and cable between foreign copper representatives and Americans.

Adding to the copper confusion during the week was the statement by the American Bureau of Metal Statistics that it would not issue statistics for October in copper, which gives the copper trade the impression that the figures were highly unfavorable. It has been hinted that the compilation and publication of these statistics may be abandoned altogether. It has been known for several years that some copper producers did not favor the issuance of such statistics, on the ground that they were too one-sided. In other words, the published statistics tell merely what stocks, etc., are in the hands of producers, but fail to reveal the inventories, amount contracted for, etc., on the part of consumers. Producers claim that the figures as compiled are too much to the advantage of buyers of the red metal.

Price changes among the metals generally have been uniformly downward. On Thursday copper dipped to 6¾ cents, a new all-time low. Lead was reduced \$2 per ton and zinc dipped \$2 per ton below its recent high for the movement of 3.30c, East St. Louis. Quicksilver has dropped to new low levels for several years, selling at \$68 per flask of 76 pounds. Antimony was strong at the close of last week at 7c per pound, duty paid, due to the war between China and Japan, the former country being the chief source of supply for antimony. However, earlier in the week a price of 6¼c was representative.

A hopeful feeling continues to underlie industrial conditions generally. The steel industry is holding its own at 31 per cent of capacity, though the past week was the first in a month during which an advance failed to take place. One hopeful development is the widespread demand for machinery and machine tools, which is believed to be the harbinger of increased industrial activity. The automobile industry is slow in getting under way. Both the Ford and Chevrolet companies have yet to buy the bulk of their raw materials for their 1932 models.

Copper selling has not kept pace with the first two weeks of this month. On one day last week export sales reached 1900 tons, but by the middle of the week they were less than 100 tons daily. Domestic business has been exceedingly light, though domestic consumers have been keeping very close track of the market, being ready to jump in if the curtailment conferences took a favorable turn. It has been predicted in some quarters

that copper might dip to 5 cents per pound if the conferences were not successful. The new low price of 6 $\frac{1}{4}$ cents failed to attract buyers.

The principal statistics to appear during the week pertained to lead, showing an increase in surplus stocks of 5300 tons, a rather large gain. However this was said to represent a temporary condition due to resumption of activity at several mining properties after summer closing. The statistics, along with quiet business and generally depressed metals, forced the \$2 per ton reduction of Thursday. Demand was quiet during the past week following briskness during the first two weeks of the month. October statistics revealed that consumption in most consuming lines was less than during September.

The price of zinc ore in the Joplin, Mo., district is somewhat higher, at \$18 to \$19 per ton as against \$17 to \$18 a week before. This is due to better demand and refusal of producers to sell at low prices which had been prevailing.

The tin market has been very lifeless and insipid. Many sellers have been concentrating their attention on silver and have not been pushing sales of tin. Prices fell along with other metals to well below 23c per pound.

Trading in silver futures on the National Metal Exchange at New York has been exceedingly brisk. Seats on the exchange rose from \$450 to \$1500, and then reacted to \$1350.

Steady Operations Looked for in Birmingham District

Birmingham, Ala., November 23—[Special.]—Steadier operations through the remainder of the year in iron and steel appear probable. Cast iron pressure pipe manufacturers have been receiving some lettings recently and adding to backlogs. Structural steel fabricating shops are being awarded numerous contracts of smaller tonnages which are aggregating fairly and new business in larger quantity is in sight for this year's booking. Some of the mills plan to stock certain products. Plate fabricators are carrying standard size tanks on yards.

Projects for the relief of unemployment hold out hope that activities may be started which will be continued. Pipe manufacturers see evidence of the working out of projects throughout the country which will call for considerable tonnage of pipe. Kansas City has placed orders for 5600 tons of various sizes of pipe, with the National Cast Iron Pipe Co., the American Cast Iron Pipe Company and the United States Pipe & Foundry Co., Birmingham. As in the case of the 32,000 tons of big-sized pipe distri-

buted in Lincoln, Neb., the Kansas City order is for one of the unemployment projects.

Cast iron pipe and other interests are buying pig iron cautiously, in quantities to meet early requirements only. Survey shows very little raw material or finished stock on hand with the pipe manufacturers. Machine shops and foundries are buying in the same conservative fashion.

Production of pig iron is being held to a minimum. One of the larger blast furnaces of the district is on basic and five of the regular sized iron-makers are producing foundry iron. Surplus stock is being reduced slightly, one company reporting a little more iron being shipped than is being manufactured right now. Base price remains firm, with no inclination whatever towards concession; in the home territory \$12 per ton, No. 2 foundry, while the little iron moving to other territories is sold at \$11.

The coal industry continues to lag. The railroads are the greatest consumers of fuel and their requirements are off. Production in Alabama is a little better than 50 per cent normal. In the coke industry production is held down to near demand, with about 50 per cent of the output of two years ago.

Quotations on pig iron and iron and steel scrap in the Birmingham district are as follows:

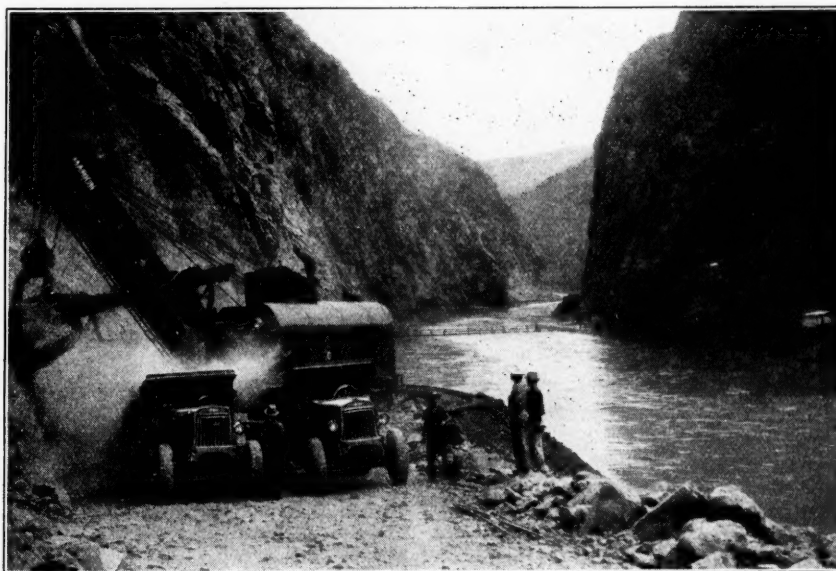
PIG IRON

No. 2 foundry, 1.75 to 2.25 per cent silicon, \$12.00; No. 1 foundry, 2.25 to 2.75 per cent silicon, \$12.50; iron of 2.75 to 3.25 per cent silicon, \$13.00; iron of 3.25 to 3.75 per cent silicon, \$13.50.

OLD MATERIAL

Steel rails	\$9.00 to \$9.50
Steel axles	12.00 to 13.00
Iron axles	12.00 to 13.00
Heavy melting steel	8.00 to 9.00
No. 1 cast	9.00 to 10.00
Stove plate	7.00 to 7.50
No. 1 R. R. wrought	7.00 to 8.00
Car wheels	8.00 to 9.00
Tramcar wheels	8.50 to 9.00
Machine shop turnings	3.50 to 4.50
Cast-iron borings	3.50 to 4.50
Rails for re-rolling	10.25 to 11.00

Building the World's Highest Dam

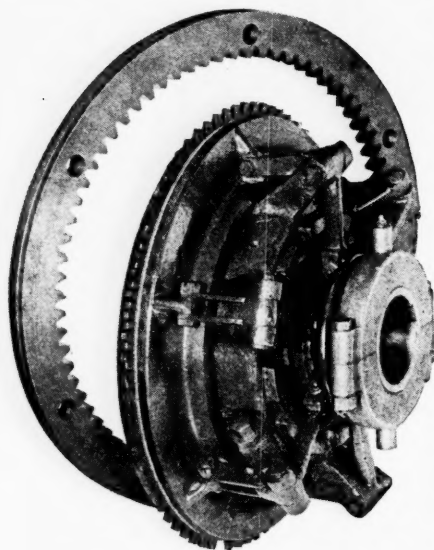


Construction of the great Hoover Dam on the Colorado River will require 5,500,000 barrels of cement and nearly 60,000 tons of steel. It will be the world's highest dam and will create the largest artificial lake. Work is now being concentrated on the building of four great diversion tunnels, each 50 feet in diameter and with a combined length of over three miles through solid rock. These diversion channels alone involve the hauling of nearly a million truckloads. Millions of cubic yards of material must be moved by trucks under conditions that old-time construction men now on the job say are the hardest they have ever encountered. The Six Companies, Inc., builders of the dam, recently placed an order for 50 International Harvester motor trucks and are using this fleet for much of the heavy hauling responsibilities in their contract. The illustration shows two Internationals being loaded by a Marion shovel at entrance of one of the diversion tunnels. Note the boulder-proof armored cabs for protection of the drivers and the open hoods which are expressive of the canyon's intense heat, reaching a maximum of 128 degrees last summer.

NEW AND IMPROVED EQUIPMENT

Twin Disc Clutch

A new clutch for heavy duty is announced by the Twin Disc Clutch Co., Racine, Wis. In its design, special consideration was given to the effect of centrifugal force on the clamping member, or floating plate of the clutch. To insure a locked engaged position, provision is made to carry the toggle links over center, the ends of the levers being moved beyond the true radial line. When releasing the clutch, the first movement is a powerful one, insuring the breaking loose of the plates, followed by a more



For Heavy Duty Installations

rapid motion to the full release position. The clutch is particularly adapted to duplex installations and for a given diameter and applied power it transmits unusual torque. The new device can be used for any type of heavy duty equipment, such as locomotives, cranes and shovels, although originally designed for oil field use.

Anderson Sand Spreader

Development of the Anderson Sand Spreader, manufactured by the Anderson Engineering Sales Co., Boston, Mass., has been carried on over the past three years, with improvements being made continuously not only to bring mechanical operation up to a high standard, but also to include all desirable features previously available in sand spreaders, in

addition to other features made possible by the unusual design and attachment. The spreader has two rotors instead of the usual single type, one at the extreme left, the other in the middle of rear of truck. Feeding arrangements of positive type provide a continuous and uniform flow of material that may be varied as desired. Rotors and feeders are mounted integrally on a special tail gate, furnished to fit any standard type of dump truck, the whole unit replacing a regular tail gate. Material to be spread moves by gravity to and through the special gate which permits sand to flow through a hole into an appended hopper, allowing it to move onto two positively driven screw feeders which feed the material evenly and break up frozen sand. Sliding gates below the feeders regulate the flow. The spreader handles dry,

damp, screened, or run-of-bank sand. By use of a grating, oversize stones are prevented from reaching the road through



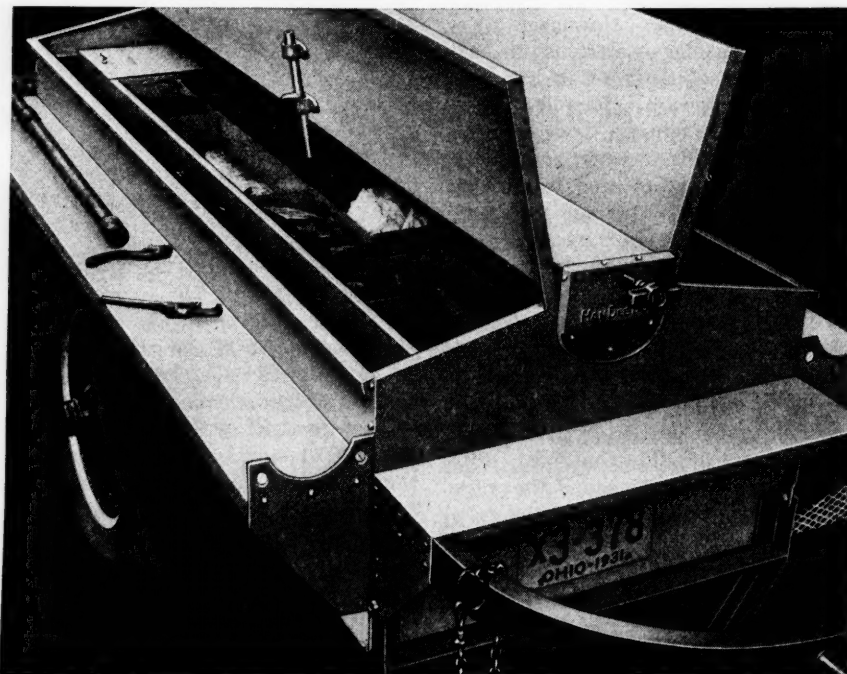
Provides Uniform Flow of Material

the rotors. Operation is controlled by a clutch, while special clutch control levers are required for cab operation.

Mobile Tool Box

A mobile tool chest, the "HanDeeBox," is being produced by Littleford Brothers, Cincinnati, Ohio. Of all-steel construction, the new tool wagon is equipped with Timken roller bearings and semi-elliptical springs, and pneumatic tires are standard equipment. Model 8-40 contains 17 compartments in the bottom or main section and 18 compartments in the ball-bearing-operated upper sliding

shelf, the smaller Model 6-40 having 11 and 14 compartments in these sections. A bar lock holds the double covers in place when open, and a flanged arrangement operated by a handle at one end of the box provides theft protection by a built-in lock. Lanterns are protected by locked guards. Littleford Brothers also manufacture other types of tool boxes and tool storage houses, as well as lead melting and compound furnaces, and maintenance kettles and trailers.



Designed to Care for Complete Outfit of Tools and Equipment

"Glaswick" Oil Cup

The Lunkenheimer Co., Cincinnati, Ohio, is marketing a new type wick oil cup, the "Glaswick," with a capacity of about 4 ounces of oil. Advantages specified include automatic lubrication, visibility of oil supply, maintenance of constant oil level, and ease in replenishing the oil. The product consists of a steel cup with a shut-off cock in the shank, and a glass bottle fitting over the top of the cup. In service, both steel cup and glass bottle are filled with oil. The desired rate of feed is obtained by determining the number of strands of wick found best for the requirement. The cock permits shutting off the flow when the bearings are idle. When replenishing the oil supply, filled spare bottles are used to replace the empties.



Provides Automatic Lubrication

Electron Tube Control Equipment

The General Electric Company, Schenectady, N. Y., has introduced a high-speed photoelectric relay, designated CR-7505-G-5, as an addition to its line of electron tube control equipment. This device uses a Thyatron tube as a relay and is applicable to operations where speed would be a limiting factor were a mechanical type relay used instead of the Thyatron. It is expected to be of greatest value in two general types of service: (1) Where the operation proceeds at unusually high speed, and a relatively small amount of current is controlled by the relay; and (2) where the speed is less, although possibly still too great for a mechanical type relay, and where it is required that a relatively large amount of current be interrupted. In the first class of service the Thyatron tube would serve as a relay and in the second class it would actuate a contactor. The device is designed to operate on 110-volt, 60-cycle circuits.

Small Ditcher, Pneumatic Tired

Parsons Model 14, a newly developed small ditcher, is announced by the National Equipment Corporation, Milwaukee, Wis., manufacturers of construction equipment. Portability is a feature of the new machine which is designed to meet needs of contractors and public utility companies in laying small pipe lines, gas and water mains, house con-

nections and conduits. Mounted on pneumatic tires, the Parsons 14 is 7 feet 3 inches high and 6 feet 9 inches wide, including the conveyor. It will cut a trench 6 inches, 9 inches or 12 inches wide by 4½ feet deep. It has 20 digging speeds, forward and reverse. Road traction is obtained in 4 different speeds, ranging up to 6.4 miles per hour. The buckets and chain are cast integral. A McCormick-Deering industrial tractor unit furnishes the power.



Fore and Aft Views of Parsons Ditcher in Action

Chain Belt Mixer Hoist

A hydraulic hoist for truck mixers has been developed by the Chain Belt Co., Milwaukee, for its line of Rex Moto-Mixers and Moto-Agitators. Capable of raising the mixer 8 feet from the ground and thus giving a greater delivery and spouting range, the new hoist was developed with the cooperation of the Heil

kick," hence the name, "Jackass Hoist." The lifting effort is exerted directly against the load to raise the drum the desired height. From the 8-foot height, the mixer can spout concrete to an area approximately 75 per cent greater than heretofore. The hoist raises the drum high enough to discharge into a 3-yard hopper. The flow of concrete can be regulated by the operator, from a slow trickle to a full discharge, by the turn of a handwheel.



Truck Mixer in Operation

Company, manufacturers of the Heil hoist, which has been specially adapted for the purpose. The hoist is fitted to the rear end of the truck chassis and raises the discharge end of the mixer "just as a jackass raises his heels to

Improve Street Car Service

Washington, D. C.—The Capital Traction Co. is expending \$700,000 in modernizing its street car facilities. In addition to the purchase of 35 new cars, which are scheduled for delivery early in 1932, 60 cars acquired in 1919 and 1920 are being reconditioned. Twenty-five of these are already in operation. Cost of the reconditioning will approximate \$75,000, while the new equipment involves a \$600,000 expenditure. Weighing 31,000 pounds, these new cars will have four motors and will be capable of pick-up and free running speeds comparable to that of automobiles.

CONSTRUCTION DEPARTMENT and NEW ENTERPRISES

Covering the initial announcements of new undertakings with additional information about enterprises previously mentioned. The date at the end of an item indicates preliminary facts were given in a previous issue.

When writing to a new firm or corporation the name of at least one of the incorporators should be placed on the envelope to expedite its handling by the local postoffice. Mail may be delayed unless complete address is given.

Building and Construction Proposed and Contracts Awarded; Manufacturing, Mining, Power, and Land Developments; Public Works; Transportation; Communication; Financial Enterprises; New Business Opportunities Reported in the Sixteen Southern States.

The Daily Construction Bulletin of the Manufacturers Record gives each business day advance news published in this weekly review. It is invaluable to those requiring prompt information. Subscription price \$40.00 a year.

Airports, Airplane Plants, Etc.

Ala., Maxwell Field—Constructing Q. M. Montgomery, receives bids Dec. 11 for paved aprons and drains; cost \$68,000.

Fla., Miami—Wm. Hepburn & Co., 1751 N. W. Fourth St., reported has contract at \$11,000, for lighting naval reserve aviation base at Opa Locka; Lieut. W. D. Southworth, Executive Officer. 9124

La., Alexandria—Alexandria Airways, Inc., organized by Eugene Levy, 2108 Jackson St., Alexandria; I. D. Wainwright, Pineville; making improvements at municipal airfield.

Md., Cumberland—Cumberland Aeronautical Corp., incorporated; Brooke Whiting, Law Bldg.

Mo., Kansas City—Austin Co., Cleveland, Ohio, reported, has contract for 150 tons fab. struc. steel for N. A. T. hangar at municipal airport. 9-24

Tenn., Johnson City—Appalachian Flying Service, incorporated; Lawrence L. Nave.

Tex., Randolph Field—Govt., reported, plans constructing third unit of Randolph Field, costing \$3,500,000, or rebuilding of Kelly Field, cost \$4,000,000, to provide for Air Corps Advance Flying School; W. Frank Jones, Chmn., House Military Affairs Comsn.; Capt. A. W. Parker, Constr. Q. M., War Dept., F. M. Andrews, Lieut. Col. Air Corps, Executive, advises present plans of Air Corps do not contemplate any new construction in immediate future at either Randolph Field or Kelly Field; no additional facilities will be needed to permit Advanced Flying School to continue in operation at Kelly Field.

Va., Langley Field—Electric Distributing System—See Want Section—Bids Asked.

Va., Langley Field—Building Repairs—See Want Section—Bids Asked.

Bridges, Culverts and Viaducts

Proposed Construction

FLORIDA—State Road Dept., Robert W. Bentley, Chmn., Tallahassee, opens bids Dec. 7 for 5 bridges in following counties:

Sumter-Hernando—350-ft. bridge over Withlacoochee River and bridge 350 ft. long over Little Withlacoochee River, each consisting of 25 ft. steel I-beam spans with conc. decks on creosoted timber piling;

Nassau-Duval—4 bridges over Nassau River, 1 main structure 600 ft. long of continuous I-beam spans with conc. decks on conc. piers, and 3 structures, totaling 418 ft., of conc. deck girder spans on 18-in. precast conc. piling.

Fla., Jacksonville—Duval County accepted plans for Jefferson St. approach to St. Johns River bridge; est. \$436,000; County votes Nov. 30 as to whether project will be carried out. 10-29

Ga. Atlanta—City, Alderman J. Charlie Murphy, Chmn., Finance Committee, accepted offer of John W. Grant to lend funds for Whitehall St. viaduct.

La., New Orleans—City, Office City Engr., has preliminary plans for bridge, Florida Ave. Drainage Canal; trestle approach, 550 ft. long, 20-ft. roadway, 5-ft. sidewalk, conc. deck, steel stringers, creosoted pile bents, 460 cu. yd. rein. conc., 200,000 lb. struc. steel, 700 cu. yd. fill, 950 lin. ft. grading, surfacing, 1000 lin. ft. creosoted piling, \$65,000. 11-12

La., Starks—War Dept. approved revised plans of State Highway Comsn., Baton Rouge, for bridge over Sabine River 5 mi. east of here.

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, has low bids for 3 bridges and jetty project in following counties:

Cecil—substructure, superstructure (with exception struc. steel span over railroad tracks), approaches, etc., for grade elimination over Pa. R. R. Co., North St., Elkton, Ce-76-23, Henry L. Maas & Sons, Inc., 1119 N. Ensor St., Baltimore, \$99,578; fabrication, erection struc. steel girder span for grade elimination over Pa. R. R. Co., North St., Elkton, Ce-122-23, McClintic Marshall Corp., Pittsburgh, Pa., \$11,077;

Frederick—fabrication, erection struc. steel superstructure (double 160-ft. span steel truss) for bridge over Monocacy River, road from Frederick to Libertytown, Ceresville, F-181-57, American Bridge Co., Continental Bldg., Baltimore, \$27,756;

Worcester—2 jetties, Ocean City, Wo-108, E. R. Boney, Norfolk, \$1437. 11-12

MARYLAND—State Roads Comsn., L. H. Steuart, Sec., Baltimore, opens bids Dec. 1 for 4 bridge projects in following counties:

Cecil—substructure, superstructure (with exception struc. steel span over railroad tracks), approaches, etc., for proposed grade elimination over Pa. R. R. Co., Bridge St., Elkton, Ce-77-23; fabrication, erection struc. steel girder span for grade elimination over Pa. R. R., Bridge St., Elkton, Ce-123-23;

Montgomery—removal rein. conc. viaduct over Slige Branch, Carroll Ave., Takoma Park, M-197-37;

Queen Anne—removal earth-filled west causeway, site of removed highway bridge, Kent Island Narrows, road from Steven-ville to Queenstown, Q-74-28.

Miss., Pica-yune—State Highway Comsn., C. M. Williamson, Dir., Jackson, ordered New Orleans Northeastern R. R. Co., subsidiary Southern Ry., B. Herman, Ch. Engr., Washington, D. C., to share expense of railroad underpass north of Pica-yune, U. S. 11, \$13,000.

Missouri—State Highway Comsn. receives bids for 68 bridges. See Roads, Streets and Paving.

Oklahoma—State Highway Comsn., Sam R. Hawks, Oklahoma City, has low bid from E. G. Fike & Co., 2531 E. Independence St., Tulsa, for bridge, U. S. 64, over Baker Creek, about 1 1/4 mi. northwest Keystone.

TEXAS—State Highway Comsn., Gibb Gilchrist, Highway Engr.; G. G. Wickline, Bridge Engr., Austin, opens bids Nov. 30 and Dec. 1 for 5 bridge projects, as part of \$500,000 bridge letting, in following counties:

Hamilton—156-ft. steel, conc. bridge over Cow House Creek, Highway 66, 6 mi. south of Hamilton, 3 53-ft. steel I-beam spans, conc. floor, 22-ft. roadway, conc. spread footings, M-9-P-3, Nov. 30;

Liberty—dismantling 138 and 230-ft. steel truss spans and 3 conc. piers and storage of steel span of Old Trinity River bridge, 16-ft. roadway, near Liberty, SP 358-B, Nov. 30;

Tyler—steel, conc. bridge, total 1201 ft. long, over Hickory and Cypress Creeks, 40 spans at 15 ft. and 30 spans at 20 ft., steel I-beams, 22-ft. roadway, treated timber pile substructure for Hickory Creek, 4 treated timber piles per bent for 28 bents of pres-

ent bridge to remain in place, near Warren, FAP 670-C, Nov. 30;

Menard—steel, conc. bridge over San Saba River, 3 I-beam anchor and suspension spans at 196 ft., 3 50-ft. steel I-beam spans and 32 28-ft. 6-in. conc. deck girder spans, 22-ft. roadway, 4-ft. sidewalk, 2 conc. caisson type piers, 4 steel cylinder conc. type bents and 33 precast conc. piling type bents and roadway approaches, total length of project 476 mi., in Menard, FAP 616-B, Dec. 1;

Caldwell—168 lin. ft. treated timber pile type bulkhead and approx. 200 lin. ft. channel change for San Marcos River bridge, Highway 3-A, near Luling, 47,700 yd. channel change, 13,717 f. b. m. 12-lb. treated timber full cell, Dec. 1. 11-19

Tex., Beaumont—Jefferson County Comms. Court adopted order asking State Highway Comsn., G. G. Wickline, Bridge Engr., Austin, to build bridge, Dryden crossing, Neches River, Port Arthur-Orange road; Highway Comsn. to apply to War Dept., Washington; 300 ft. horizontal clearance, 150 ft. long, 22-ft. roadway, overall length of 2315 ft., including approaches, \$677,675.

Tex., Fort Worth—City Engineering Dept. approved plans of Texas & Pacific Ry. Co., E. F. Mitchell, Ch. Engr., Dallas, for Ballinger St. viaduct; plans nearing completion for Summit and Daggett Ave. viaducts; City, T. & P. Ry. Co., and St. Louis-San Francisco Ry., F. G. Jonah, Ch. Engr., St. Louis, Md. to share cost. 11-19

Tex., Houston—City Council considering plans for rein. conc. culvert, Little White Oak Bayou at proposed extension of White Oak Dr., \$20,000; J. M. Nagle, City Engr.

VIRGINIA—State Dept. of Highways, C. S. Mullens, Ch. Engr., Richmond, opens bids Dec. 8 for 2 bridges in following counties:

Madison—over Mulato Creek, 4.6 mi. from Madison Courthouse, Route 16;

Southampton—Isle of Wight—over Blackwater River, Route 12, .28 mi. from Franklin.

Virginia—See Bridges, Culverts and Viaducts.

Contracts Awarded

Georgia—State Highway Bd. let contracts for 3 bridges. See Roads, Streets and Paving.

Louisiana—Missouri Valley Bridge & Iron Co., Leavenworth, Kans., has contract for 1072 tons struc. steel, 2 bridges, over Tangipahoa and Boquechito Rivers, through W. H. Groome & Son, Inc., Fayette, Miss., Gen. Contrs. (See Roads, Streets and Paving, 10-29.)

W. Va., Charleston—Kanawha County Court, R. N. Moulton, Clk., let contracts for bridges: Over Poca Fork of Little Sandy Creek, superstructures at Frame, Haynes Bros., \$6725; over Cabin Creek at Dawes and Miami, Monte Bros., \$9532; superstructure over Davis Creek, Monte Bros., \$1925. 11-12

Canning and Packing Plants

Tex., Pampa—Pampa Packing Co., capital \$30,000, incorporated; E. E. Reynolds.

Coal Mines and Coke Ovens

Md., Western Port—Rymek Coal Co., capital \$25,000, incorporated; H. C. Yenger.

Tenn., Nashville—Dollard Coal Co., Inc., chartered; J. T. Dollard, 1208 Woodland St.

Cotton Compresses and Gins

La., Bonita—J. D. Shackelford will rebuild burned gin and cotton storage plant in August; 40x200 ft.; conc. and wood; galv. iron roof. 11-12

Cottonseed-Oil Mills

Ark., Forrest City—John A. Moore and Muskogee Steel Co., Muskogee, Okla., reported, have contract for \$30,000 conc. and steel house for Phillip Hickey; 90x200 ft.; storage capacity 9600 tons; crush 150 tons seeds daily.

Drainage, Dredging and Irrigation

Fla., Miami—War Dept., Patrick J. Hurley, Secretary, approved recommendations of Maj.-Gen. Lytle Brown that contract be signed with city under which city will assume responsibility for \$800,000 project to deepen channel of Miami River to 15 ft. 10-22

Tex., Orange—Orange County Conservation & Drainage Dist. has plans approved for \$565,000 drainage project, covering 22,400 acres in northeast part of county; plans call for levees, channel straightening in natural water courses and removing bars and obstructions. 11-12

Electric Light and Power

Electric light and power work in connection with many LAND DEVELOPMENT operations involves the expenditure of large sums of money. See that classification for details.

Fla., Wakulla—Wakulla County Chamber of Commerce, reported, co-operating with Guy Winthrop, Tallahassee, representing Telogee Power Co., for erection of Diesel engine plant at Medart; rights-of-way being secured.

Ga., Augusta—City Council, reported, authorized issuance of \$2,500,000 bonds for erection electric light and power plant; erection of power plant under direction of Augusta Canal Comsn.; will probably install Diesel engine plant first, later construct hydro-electric plant on canal. 11-19

Miss., Starkville—See Want Section—Bids Asked.

Missouri—Stone & Webster Engineering Corp., 49 Federal St., Boston, Mass., advises construction of transmission line extending from Osage Power plant to St. Louis for Union Electric & Power Co. has not been started; contracts let as follows: Creosoted southern yellow pine poles and fir cross-arms and blocking, National Lumber & Creosoting Co., Texarkana, Tex.-Ark.; overhead ground wire, John A. Roebling's Sons Co., Trenton, N. J., and Graybar Electric Co., 420 Lexington Ave., New York; 75 railroad towers, Missouri Rolling Mill Corp., 6800 Manchester St., St. Louis; insulators and hardware, Lapp Insulator Co., Le Roy, N. Y.; conductors, Aluminum Co. of America, Oliver Bldg., Pittsburgh, Pa. 10-1

Mo., Sullivan—R Dron Electric Co., Madison, Ill., low bidder at \$75,799 for city power plant; McIntosh & Seymour Corp., Auburn, N. Y., apparent low bidder for Diesel engine; W. A. Fuller Co., Engrs., 2916 Shennandoah St.

N. C., Albemarle—South East Public Service Co., Charlottesville, Va., reported, acquired Almond Light & Power Co., distributors electric current in county surrounding Albemarle.

N. C., Beaufort—Tide Water Power Co., Wilmington, reported, consummated purchase of town power and water plants and equipment; plant will be combined with Morehead City plant; also acquired electric distribution system of Newport. 10-22

N. C., Canton—Champion Fibre Co., Reuben B. Robertson, Pres. and Gen. Mgr., reported, having preliminary survey made for construction impounding dam across western prong of Pigeon River at Sunburst, 4 miles from Woodrow; proposed dam will form additional reservoirs to regulate river flow to furnish necessary water for operation of company's plant; 50 ft. high, 300 ft. long, covering area of 100 acres. 11-5

N. C., Durham—City, R. W. Flack, Mgr., reported, having estimates prepared on cost of white way improvements.

N. C., Newport—See Beaufort.

N. C., Shelby—Southern Public Utilities Co., Charlotte, negotiating for city light plant.

Texas—Emery, Peck & Rockwood Development Co., Seguin, reported, sold its properties in Llano, Burnet, San Saba and Travis

counties to Central Texas Hydro-Electric Co.; transfer includes Hamilton power dam now under construction in Llano and Burnet counties and sites for 5 other proposed dams on Colorado River; personnel of Emery, Peck & Rockwood Development Co. will hold stock and use offices of Central Texas Hydro-Electric Co.; F. A. Dale, Mgr., headquarters at Hamilton dam site; plans carrying out original plan of financing and developing Colorado River hydro-electric projects. 7-2

Tex., Georgetown—City, W. H. Nunn, Atty., extend street lighting system.

Virginia—West Chester Electric Equipment Co., Yonkers, N. Y., reported, has contract for lighting unit V of Mt. Vernon Memorial Highway for Washington, Bureau of Public Roads, Dept. of Agriculture.

Flour, Feed and Meal Mills

Mo., Mount Vernon—Mount Vernon Mill & Elevator Co. installing mill for manufacturing meal; capacity 25 bbls. daily.

Garages and Filling Stations

D. C., Washington—Leo P. Connors, 1722 25th St., S. E., reported, let contract to Martin McInerney, 923 15th St., N. W., for filling station 1741 New Jersey Ave., N. W.; cost \$12,000.

Fla., Inverness—Boswell Bros., Inc., chartered; W. E. Boswell.

Fla., Miami—Couture Motor Corp. incorporated; F. H. Couture, 1004 S. W. 16th Ave.

Fla., Sarasota—Sarasota Tire Service, Inc., chartered; J. V. Keen, Bay Haven.

La., Shreveport—Auto Battery & Electric Co., incorporated; W. M. Chambers, 6100 Willard Ave.

Md., Baltimore—Lord Baltimore Filling Station, Inc., American Bldg., reported, construct filling station, York Rd. and Northway.

Md., Baltimore—Wm. D. Jacobson, Nel-Mar Apt., construct gas station, 3225 Barclay St.

Md., Baltimore—C. J. Spielman, 1928 Annapolis Rd., reported, erect garage and filling station Kent St. near Tacoma St.; 1 story; brick; 60x120 ft.; owner builds.

Md., Baltimore—Quality Motor Co., incorporated; Hyman Paul Rome, 213 N. Calvert St.

Md., Baltimore—Kernan Motor Co., Inc., chartered; John J. Kernan, 1221 Maryland Ave.

Md., Baltimore—John W. O'Day, 3811 Penhurst Ave., has contract for garage 5028 Reisterstown Rd., for J. B. Wallis, Garrison & Western Md. R. R. 1-story; conc. block.

Md., Baltimore—Atlantic Refining Co., Keyser Bldg., reported, erect filling station W. Pratt & Monroe Sts.; cost \$20,000.

Md., Baltimore—George W. Rife, Rife Bldg., reported, construct filling station Harrison and Fayette Sts.

Md., Cumberland—Thompson Buick Corp., 429 N. Mechanic St., incorporated; Clarence Boles.

N. C., Forest City—Moss Brothers, Inc., capital \$25,000, incorporated; W. S. Moss.

Tex., Dallas—Rent-A-Car Service incorporated; Robt. L. Clark, 4433 Glenwood St.

Tex., Fort Worth—Safety Lane Garage incorporated; J. J. Johnson, 214 E. Terrell St.

Tex., Victoria—Abshler Auto Sales Co. incorporated; H. A. Abshler.

W. Va., Morgantown—Paul Laymon, Inc., chartered; S. F. Glasscock, Bank of Morgantown Bldg.

W. Va., Spring Hill—Midland Service & Garage Co. incorporated; O. B. Carter, Spring Hill.

Gas and Oil Enterprises

Ky., Munfordsville—Treasure Island Oil & Gas Co., incorporated; W. W. Rider.

La., Litcher—Litcher Oil Co., incorporated; C. Roussel.

Md., Baltimore—Sun Oil Co., 1608 Walnut St., Philadelphia, Pa., reported, receives bids soon for warehouse, garage and office building, 89x65 and 48x51 ft.

Tenn., Johnson City—Gulf Refining Co., Lake & Walnut Sts., reported, will rebuild burned office and warehouse.

Tex., Cleburne—City Oil Co., capital \$11,000, incorporated; J. E. Persons.

Tex., Dallas—Chalk Production Co. incorporated; A. L. Slaughter, Praetorian Bldg.

Tex., Electra—Waggoner Gasoline Co., capital \$25,000, incorporated; W. T. Waggoner.

Tex., Fort Worth—East West Oil Co. incorporated; Walter P. Luck, Petroleum Bldg.

Tex., Fort Worth—Crest Development Co., incorporated; Henry Zweifel, 2111 Penbroke St.

Tex., Houston—Whittle-Kavanaugh Corp., capital \$300,444, incorporated; Claude Kavanaugh, Esperson Bldg.

Tex., Marshall—Darough-Smith Oil Co., capital \$20,000, incorporated; Claud Darough.

Tex., Overton—Diamond Oil & Refining Co. incorporated; John C. Calhoun.

Tex., Waskom—Arkansas Pipe Line Corp., subsidiary of Arkansas Natural Gas Corp., Ardis Bldg., Shreveport, La., started work on 6-in. gas pipe line from Panola county gas field to Waskom; portion of gas produced in this field to be piped to United Gas Co.'s plant at Waskom; distribute gas through other lines from that city.

Tex., Wichita Falls—City votes Dec. 5 on election to enable city government to contract for municipal plant, or new gas distributing system in future if it desires to do so; franchise of company now supplying city will expire in about a year. 11-9

Va., South Boston—American Oil Co., T. J. O'Connell, American Bldg., Baltimore, Md., opens bids Dec. 1 for storage (bulk) plant; metal, excavation, conc. steel, iron, sheet metal, plumbing, etc.; following estimating Maryland Metal Building Co., McComas & Race Sts.; Fidelity Eng. Corp., 6300 Belair Rd., both Baltimore, Md.; Geo. W. Kane, Jefferson Life Bldg.; J. L. Crouse, P. O. Box 642, both Greensboro, N. C.

W. Va., Charleston—Rex Oil & Gas Co., capital \$20,000, incorporated; Edward Gebhart, 1216 Quarrier St.

Ice and Cold-Storage Plants

Fla., Quincy—Albritton & Williams, Quincy, reported, has contract for corrugated iron and conc. building for Gadsden Ice & Power Co.

Fla., St. Augustine—New St. Johns Ice Co., Inc., chartered; F. Ferlise.

La., Monroe—N. C. Stanfa, 1811 De Siard St., reported, interested in organizing Mutual Benefit Ice Co., to erect ice plants at Monroe; capacity 75,000 tons and West Monroe; capacity 50,000 tons.

Md., Baltimore—Maryland Metal Building Co., Race and McComas Sts., reported, has contract for rebuilding plant Garrison Ave. and Western Md. R. R. for Domestic Utilities, J. C. Lohman, Box 105, Arlington Sta.; galv. iron, 1 story, 50x100 ft. 11-19

Md., Baltimore—R. H. Bozman Bros., 1045 Granby St., reported, plans addition to refrigerating plant; James R. Cox, 4547 Harford Rd., Archt.; plans ready for bids soon.

Md., Baltimore—Charles Dimmling, Broadway Market, reported, receive bids after Jan. 1 for store and refrigeration addition and improvements, 602 S. Broadway; brick, built-up roof, electric wiring, sheet metal, conc.; John R. Forsythe, Archt., 16 E. Lexington St.

Md., Baltimore—American Ice Co., Calvert Bldg., reported, let contract to Tase, Norris & Co., 903 Cathedral St., for alterations 330 W. 23rd St.; casement windows; millwork; painting; glazing; electric wiring, etc.

Tenn., Cleveland—Southern Cold Storage Co., Coleman Rogers, Mgr., will rebuild burned plant; type not definitely decided. 11-19

Land Development

Fla., Arcadia—Bunker Groves, Inc., chartered; C. E. Gibson.

Fla., Arcadia—Owens Groves, Inc., chartered; J. M. Raulerson.

Fla., Daytona Beach—Walter Kennett, reported, in charge construction golf course in Rio Vista for Water C. Hardesty.

Fla., Jacksonville—Franklin Plan Co. incorporated; H. Webb, 633 W. Forsyth St.

Fla., Trenton—Trenton Farms Corp. incorporated; W. E. Bell, Jr.

Fla., West Palm Beach—Selberon Corp., incorporated; M. Roberts, 1139 N. Rosemary St.

Fla., West Palm Beach—Peerless Hudrostatics Corp., incorporated; J. W. Smith, Murray Bldg., Palm Beach.

Md., Baltimore—St. Paul Realty Corp., 215 N. Calvert St., chartered; Albert Moss, 1020 W. Baltimore St.

Md., Baltimore—Pioneer Realty Corp., 4000 Bateman Ave., incorporated; Edw. A. O'Mara, Munsey Bldg.

Md., New Windsor—Mount Olivet Fruit Co., Inc., chartered; J. Walter Englar.

Md., St. Michaels—H. Wrightson Dawson developing water front property on San Domingo Creek; 10 homesites.

Miss., Gulfport—Golf Course, Tennis Courts, etc.—See Miscellaneous Construction.

Mo., Kansas City—H. E. Clark & Co., Inc., chartered; Fenton Hume, 709 Sharp Bldg.

Mo., Springfield—Hazeltime Sub-Division, Inc., chartered; Louis K. Hazeltine.

Mo., St. Louis—Onondaga Cave, Inc., chartered; Esther M. Golly, 517 Wainwright Bldg.

Mo., St. Louis—Congress Realty Co. incorporated; Wm. F. Dowdall, 506 Olive St.

Va., Abingdon—Honaker Land Co., capital \$25,000, incorporated; A. C. Honaker, Bristol.

W. Va., Parkersburg—Stout Realty Co., incorporated; A. J. Stout, 531 Market St.

W. Va., Welch—Georgetown, Inc., capital \$25,000, incorporated; Louis Georgetown.

Va., West Falls Church—Metropolitan Properties, Inc., capital \$15,000, chartered; Gilbert W. Hinton.

Lumber Enterprises

Ark., Junction City—Anthony-McLeod Lumber Co., Warren, leased former properties of Cornie Stave Mill; install hardwood lumber yard and office; J. D. Sunderlin, Warren, in charge.

Md., Maugansville—Maugansville Elevator & Lumber Co., Inc., chartered; Lewis S. Martin.

Tex., Yoakum—John W. Neill Lumber Co. incorporated; John W. Neill.

Mining

La., Abbeville—Jefferson Lake Oil Co., Arthur Barba, Sr., Pres., 905 N. O. Bank Bldg., New Orleans, advises office building and laboratory and foundation for boilers at sulphur plant has been completed; other foundation work now under way, also wharf and boat ways being constructed in Lake Peigneur opposite plant site; contracts closed at this time cover boilers, air compressors; pumps; pump house; warehouse; garage; machine shop building; lime house; core house; water heaters; water softening plant; water tower; fuel oil tank of 10,000 bbl. capacity and all pipe necessary to connect sulphur wells at plant; total of about 30,000 ft. pipes of various sizes is required; all equipment contracted for; are drilling at No. 25 location; company has expended approximately \$500,000 in preliminary work at Lake Peigneur, outlining sulphur deposit to be mined; initial plant will have capacity of 100,000 tons and occupy 85 acres; main building 70x100 ft.; 80 ft. high water tower of 30,000 gal. capacity; 15,000 bbl. oil tank; 50 acres of sulphur vats of 1,000,000 ton capacity; two 8-in. water wells and a quadruple 6000 ft. pipe line from plant to deposit; completed in 4 months. 11-5

Mo., Leeper—Ozark Mining Co. incorporated; Harman A. Radtke.

Mo., Stotts City—Glendale Mining Co., N. J. Andrew, Joplin, reported, acquired Shirley D mine near here; will improve; install oil engines, compressor, sink-field shaft, etc.

Miscellaneous Construction

Ala., Mobile—Supvg. Archt., Treasury Dept., Washington, D. C., opens bids Dec. 7 for wharf, etc., for U. S. quarantine station.

Arkansas—U. S. Engr. Office, 1006 McCall Bldg., call for bids in 30 to 45 days for seawall and levee work, U. S. supply and repair depot. 11-19

D. C., Washington—Following additional estimators on 2 refuse incinerators, bids due Dec. 8, Office Dist. Commrs., 509 Dist. Bldg.: United Construction Co., Munsey Bldg.; Rust Engineering Co., 502 Dist. Natl. Bank Bldg., both Washington; Hiller Engineer & Construction Co., 122 Livingston St., Brooklyn, N. Y.; H. E. Crook Co., Inc., 28 Light St.; Henry L. Mass & Sons, Inc., 1119 Ensor St.; P. C. Streett Engineering Co., 404 St. Paul St., all Baltimore, Md.; The Dresser Co., The Arcade; C. O. Bartlett & Snow Co., 6200 Harvard Ave., both Cleveland, Ohio; W. P. Rose Co., Wayne Natl. Bk. Bldg., Goldsboro, N. C., and Washington; A. Lloyd Goode, Inc., 11 E. Fifth St., Charlotte, N. C.; Newport Contracting & Engineering Co., Lee Hall, Va.; Chas. S. Barnett, Inc., Philadelphia, Pa.; Murch Bros. Construction Co., Ry. Exch. Bldg., St. Louis, Mo.; Fred De Groot, 2266 Atlas St., Harrisburg, Pa.; Virginia Engineering Co., Inc., First Natl. Bank Bldg., Newport News, Va. 11-19

Florida—U. S. Engr. Office, Jacksonville, soon call for bids for repairs to jetties, Port Everglades; work to be done from \$44,000 annual appropriation for maintenance of port.

Fla., Miami—Orleans Corp., A. J. Cleary, E. N. Belcher and J. N. Lummus, Jr., 322 N. E. 36th St., Miami Beach, denied War Dept. permit to construct island in Biscayne Bay. 8-6

Ga., Augusta—Augusta Levee Comsn., T. S. Gray, Chmn., let contract to Clausen-Lawrence Construction Co., 1394 Gwinnett St., Augusta, at \$25,000, for levee below city.

Louisiana—U. S. Engr. Office, foot of Prytania St., New Orleans, has low bids for 15,031 lin. ft. wooden revetment, Second New Orleans Dist.: Barataria Levee Dist.—Item R 1006-W, La Reusite-Alliance Levee, 1010 lin. ft., Concrete Construction Co., New Orleans, \$2.17; Item R 1017-W, Junior Point Celeste Levee, 1240 lin. ft., J. M. DeFraithe, Inc., Canal Bk. Bldg., New Orleans, \$1.94½; Item R 1048-W, Triumph Levee, 5661 lin. ft., August A. Buras, 313 S. De Soto St., New Orleans, \$1.45; Item L-934-W, Pecan Grove Levee, 1430 lin. ft., Concrete Construction Co. and Arthur L. Walker, Memphis, Tenn., identical bids, \$0.82; L-985-W, Story Levee, 1010 lin. ft., Concrete Construction Co., \$1.24; L-1006-W, Fairview Levee, 100 lin. ft., Arthur L. Walker, \$0.92; 1009-W, Monsecour Levee, 2230 lin. ft., J. M. DeFraithe, Inc., New Orleans, \$0.78; 1019-W, Collette Levee, 1450 lin. ft., Arthur L. Walker and J. M. DeFraithe, Inc., identical bids, \$0.85. 10-22

La., Harvey—Following quantities involved in furnishing, setting and erecting fixed irons, gates and operating machinery for lock being built in Louisiana and Texas Intracoastal Waterway, bids due Dec. 15, at U. S. Engineer Office, First New Orleans Dist., Po. and Dauphine St., New Orleans 1,053,000 lb. struc. steel, 16,400 lb. forgings, 20100 lb. bolts, 2330 lb. rein. steel, 42-100 lb. nickel steel, 1380 lb. cold rolled steel, 276,200 lb. steel castings (Class A) 250,000 lb. steel castings (Class B), 63,300 lb. iron castings, 9500 lb. hand railings, 2130 lb. bronze, 10,000 lb. babbit metal, 2700 lb. rubber seals, 12,600 bd. ft. oak timber, 4 gate valves, 8 complete units of gate operating machinery with exception electrical equipment, 4 complete units of valve operating machinery with exception of electrical equipment, air compressor unit, 3 capstans, piping system, water piping system, drainage piping system, 174 lin. ft. stair nosings, electrical equipment. 11-19

Maryland—See Roads, Streets and Paving.

Md., Annapolis—Bureau of Yards & Docks, Navy Dept., Navy Bldg., Washington, D. C., opens bids Dec. 2 for pile dolphins. Following estimating: Empire Construction Co., 31 S. Calvert St.; Sanford & Brooks, South & Water Sts.; Merritt, Chapman & Scott, Fidelity Bldg., all Baltimore.

Miss., Gulfport—City Commrs. adopted resolution for extending 20th Ave. about 5000 ft. southward, providing for seawall and highway with yacht basins, tennis courts, 9-hole golf course, piers, pavillion, etc.; Shourds & Beau, Archts.-Engrs.

Missouri—U. S. Engr. Office, 707 Postal Telegraph Bldg., Kansas City, has following low bids: 8010 lin. ft. standard pile clump dikes, Missouri River, Moberly Bend, Waverly Reach and Waverly Bend, Kansas City Bridge Co., 215 Pershing Rd., 215 Pershing Rd., Kansas City, \$167,794; 7520 lin. ft. standard pile clump dikes, Missouri River, Rising Creek Bend and Cote San Dessein Beach, W. P. McGeorge, Pine Bluff, \$223,410. 10-22

Missouri—U. S. Engr. Office, 707 Postal Telegraph Bldg., Kansas City, has following low bids: 8010 lin. ft. standard pile clump Missouri River, Quindaro, Kaw and Kansas dikes and 3600 lin. ft. standard revetment, River Bends, Massman Construction Co., 534 New York Life Bldg., Kansas City, Mo., \$302,515; 12,105 lin. ft. standard pile clump dikes, Missouri River, Rushville Bend, Wickham Bridge & Pipe Co., Council Bluffs, Iowa, \$294,285.

Missouri—U. S. Engr. Office, 707 Postal Telegraph Bldg., Kansas City, has low bid from Eilhorn, Bower & Peters, Inc., 1811 Ry. Exch. Bldg., St. Louis, at \$276,510, for about 10,000 lin. ft. standard pile clump dikes, Missouri River, Portland Reach. 10-22

Missouri—U. S. Engr. Office, 707 Postal Telegraph Bldg., Kansas City, has low bid from E. L. McCain, 421 Crockett St., Shreveport, La., at \$52,395, for 1750 lin. ft. standard pile clumps, Missouri River, Nigger Bend. 10-29

Missouri—U. S. Engr. Office, 707 Postal Telegraph Bldg., Kansas City, has low bid from C. W. Hunter Co., 177 S. Front St., Memphis, Tenn., at \$189,882, for 6890 lin. ft. standard pile clump dikes, Missouri River, Robinson Bend.

Mo., St. Joseph—Zion Evangelical Church plans \$200,000 mausoleum, Ashland Cemetery; monolithic design, large chapel, private rooms and companion sections, sarcophaga, columbaria sections and individual crypts, granite, marble, bronze; R. E. Peden, Archt., St. Louis; Bldg. Committee includes Rev. F. C. Klick, pastor; R. J. Tietz, president of congregation; W. L. Goetz, president cemetery board, and others; negotiating with Memorial Builders, Inc., St. Louis, in connection with general contract.

Mo., St. Louis—U. S. Engr. Office, Custom House, has following low bids for piling dikes in Missouri River: 2200 lin. ft., M. A. Wogan, 511 Ry. Exch. Bldg., Kansas City, \$48,395; 3200 lin. ft., Howard Bend, Patton Tully Transportation Co., Memphis, Tenn., \$74,135; 4500 lin. ft., South Point Reach, same firm, \$94,040; 3500 lin. ft. Augusta Bend, same firm, \$81,925; 4800 lin. ft. standard pile clump dikes, Washington Reach, same firm, \$106,040. 11-12

N. C., Fayetteville—City, J. C. McBule, Clk., construct wharves and docks to take advantage of deepening of Cape Fear River; to be built by city when U. S. Engrs. assure 4-ft. channel; voted \$65,000 bonds. 10-15

Tenn., Memphis—War Dept., Maj. Gen. Lytle Brown, Chief of Engrs., Washington, approved allocation of \$500,000 for revetment work on Mississippi River, Memphis Dist., plus approval of expenditure of \$257,000 saved from previous allocations for revetment and construction; \$175,000 will be expended for purposes other than revetment work, \$160,000 on plant improvements and changes to bring bank protection equipment up to date, and \$15,000 for engineering costs and surveys; revetment authorized includes 1500 lin. ft., New Madrid extension, \$59,950; 3000 ft., Aubrey Towhead Sec., \$114,493; Happy Valley downstream, 2000 ft., \$65,429; Bauxippi-Wlanoke Sec., 6000 lin. ft., \$216,711; Helena upstream Sec., \$125,032. Nov. 17, 1930

Tenn., Memphis—U. S. Engr. Office, McCall Bldg., let contract to W. E. Womble & Son, Fort Smith and Searcy, Ark., for 20,000 cu. yd., stone for revetment for use in flood control work and harbor protection on Mississippi River, \$45,000.

Tex., Goose Creek—Noland Wells, Houston, and associates let contracts for ½-mi. auto speedway; plan flying service and school and may designate new field as municipal airport.

W. Va., Marmet—U. S. Engr. Office, R. C. Hewes, Ch. Clk., Coal Exch. Bldg., Huntington, advises contract will be let Dravo Contracting Co., Neville Island, Pittsburgh, Pa., for Lock B. 10-29

Miscellaneous Enterprises

Ala., Mobile—Swift & Co., W. H. Horton, Engr. Dept., Union Stock Yards, Chicago, Ill., reported, will probably prepare revised plans for \$80,000 unit. 11-12

Fla., Bronson—Lemon-Turpentine Co., Inc., chartered; F. Handley.

Fla., Miami—Atlas Quarries, Inc., chartered; J. M. Deer, 833 N. W. 13th St.; building materials.

Fla., St. Augustine—Vilano Bridge & Beach Corp., incorporated; E. F. Pomeroy, Jr.

Ga., Atlanta—City, reported, will purchase signal system from Gamewell Co., Newton Upper Falls, Mass., at cost of \$20,710.

Ga., Elberton—Dixie Granite Co., J. E. Hammond, plans finishing plant; 35x1000 ft.; equip with modern granite working machinery.

Ga., Savannah—Crane Co., A. P. Keisker, Mgr., 14 W. Broad St., reported, leased 7500 sq. ft. land adjoining present warehouse; will make Savannah warehousing and distributing point on heating boilers and radiators in Georgia and South Carolina.

Ky., Glasgow—Ely Drugs, Inc., capital \$25,000, incorporated; A. E. Ely.

Ky., Louisville—Insurance Publishing Co., incorporated; T. L. Rees, 1320 S. First St.

Ky., Lawrenceburg—Kraft-Phenix Cheese Co., 400 Rush St., Chicago, Ill., reported, construct addition to plant; increase capacity from 60,000 to 120,000 lbs. milk daily; install 8 vats with capacity 120,000 gals.; also enlarge cold storage room.

La., Lake Charles—Vacuum Oil Co., 61 Broadway, New York, let contract to Chicago Bridge & Iron Works, Chicago, for erection two 10,000 bbl. storage tanks at Castle's Mill on Calcasieu River; laying line from Iowa field to tank farm; also constructing two 80,000 bbl. oil tanks on Johnson Bayou to care for oil being produced Cameron-Meadow lease. 11-12

La., Shreveport—Shreveport Mattress Co., Daly V. Trickett, Pres., reported, constructing addition; remodel present building on Market St. viaduct at Sixth St.

Md., Baltimore—Baltimore Paint & Color Co., 148 S. Calverton Rd., construct addition; brick, 1 story, 34x100 ft., steel shed, 1 story, 25x28 ft.; owner builds; Morris Zimlin, Engr., 1924 Granby St. 10-22

Md., Baltimore—Neelro Co., incorporated; Charles F. Goldberg, Calvert Bldg.; manufacture mechanical devices.

Md., Hyattsville—Swan Laundry, Inc., chartered; Martin A. McAnallen.

Mo., Carthage—A. S. Sorenson Mfg. Co., reported, acquired tool sharpener plant of Stivers Mfg. Co.

Mo., Farmington—City, reported, negotiating with Rice-Stix Dry Goods Co., 1002 Washington St., St. Louis, for location of shirt factory; citizens to raise \$40,000 for constructing building.

Mo., Joplin—Ozark Nut Co., organized with Wm. M. Stewart, Pres., establish nut cracking plant, Fourth St. and Grand Ave.

Mo., Kansas City—Home Insulation Co. incorporated; John R. Moberly, 507 K. C. Railways Bldg.

Mo., Kansas City—Hirsch-Houtz Mfg. Co., leased building 1425 Locust St.; equip for bedding factory; install sprinkler equipment.

Mo., St. Louis—Empire Navigation Co., capital \$50,000, incorporated; Wm. S. Cordy, 511 Wainwright Bldg.

Mo., St. Louis—Mint-Rub Corp., capital \$25,000, incorporated; Charles E. Downs, 317 N. 11th St.; manufacture drugs.

N. C., Charlotte—Modern Appliance Co., capital \$50,000, incorporated; Arthur F. Wenige, 1519 E. Blvd.

Okla., Shawnee—Farmers' Mutual Butter & Cheese Co., W. J. Williams, Mgr., reported, plans in progress for milk plant.

Okla., Tulsa—City, Earl Logan, City Auditor, reported, call for bids about Dec. 10 for fire alarm system, building equipment and telephone systems; Smith & Senter, Archts., Philtower Bldg.

Okla., Tulsa—Chromium Plating Co., reported, leased building 123 N. Cincinnati Ave. manufacture, Udylite, nickel-copper chromium rust proofing.

Okla., Tulsa—Tulsite Chemical Co., reported, leased building, Hale Station; installing machinery for manufacture chemical soaps.

N. C., Canton—Champion Fibre Co., Reuben B. Robertson, Pres., advises excavation work for buildings almost completed; foundation piles being driven and some conc. foundation work under way; Morton C. Tuttle Co., 31 St. James Ave., Boston, Mass., in charge of construction; equipment contracts and orders placed as follows: Paper machine, Pusey & Jones Corp., Wilmington, Del.; Jordans, E. D. Jones & Sons Co., Pittsfield, Mass.; struc. steel, Ingalls Iron Works Co., 720 Fourth Ave., S., Birmingham, Ala.; steel erecting, The Steel Construction Co.; cement, Cumberland Portland Cement Co., Cowan, Tenn.; beaters, Dilts Machine Works, Inc., Fulton, N. Y.; agitators, Shartle Bros. Machine Co., Middletown, Ohio; ventilating velle; pumps, Morris Machine Works, Baldframes, Dave Steel Co., Roberts St., Asheville, N. Y.; winder drive and screens, Moore & White Co., 15th St. & Lehigh Ave., Philadelphia, Pa.; vapor system, Midwest-Fulton Machine Co.; overhead crane, Shepard-Niles Crane & Hoist Co., Montours Falls, N. Y.; stuff pumps, Shartle Bros. Machine Co.; broke beaters, Dilts Machine Works; paper machine drive, General Electric Co., Schenectady, N. Y.; flat screen, Sandy Hill Iron & Brass Works, Hudson Falls, N. Y. 11-5

N. C., Greensboro—George W. Kane Construction Co., Jefferson Bldg., Greensboro, reported, has contract for bottling plant for Greensboro Coca Cola Bottling Co., care of H. M. Draper; 2 stories and basement; 128x78 ft.; rein. conc.; struc. steel; brick and tile; steel sash; tar and gravel roof. 11-19

S. C., Columbia—G. D. Lott, 605 Capitol Place, and V. D. Lott, secured charter for Colprovia Road Products, Inc., serving in South Carolina as state agents for cold asphalt paving material; capital \$20,000; will sell material throughout state; ultimately have plants located in different sections; at present time have plant at Columbia; patentors of Colprovia paving material in America is Colprovia Roads Products Co., New York City. 11-19

Tenn., Knoxville—Tennessee State Press Co., James A. Fowler, Pres., reported, plans publishing newspaper; H. P. Suite, Newport, Mgr. Editor.

Tenn., Knoxville—Nat G. Taylor, Johnson City, reported, announced newly formed Knoxville Publishing Co. purchased \$500,000 issue of first mortgage bonds of Knoxville Journal, Inc.

Texas—Goodall Worsted Co., Wm. N. Campbell, Pres., Sanford, Maine, advises no definite plans made with reference to establishing clothing factory in Texas. 9-17

Tex., Dalhart—Dalhart Farm Machinery Co. incorporated; R. L. Saunders.

Tex., Dallas—Lamar & Smith, capital \$25,000, incorporated; Clyde B. Lamar, 312 Centre St.

Tex., Gainesville—Gainesville Amusement Co. incorporated; Harry Lowenstein.

Tex., Panola—Neal Estes, Commerce, acquired Panola Watchman, weekly newspaper.

Tex., San Angelo—O. D. Dillingham, Abilene, Pres., Banner Ice Cream Co., reported, erect building, part 2 stories adjoining ice plant, 445 S. Oakes St., for ice cream, milk and butter departments; bids for general contract opened in Dec.; construction to begin in Jan.; capacity 1500 gals. milk daily; churning capacity 500 lbs. butter and facilities to produce 1000 gals. ice cream daily; purchased equipment from Cherry-Burrell Corp., 427 W. Randolph St., Chicago, Ill.

Tex., Tyler—Stephens County Rig Building Co., incorporated; J. P. Branch.

Tex., Wichita Falls—General Machine & Supply Co., incorporated; R. D. Noland, 2301 Princeton St.

Va., Alexandria—Ford Motor Co., B. J. Craig, Sec. & Asst. Treas., Detroit, Mich.; Richard B. English, Dist. Mgr., 451 Pennsylvania Ave., N. W., Washington, D. C., acquired 5-acre site, foot Franklin St., on Potomac River, and will erect plant.

Va., Norfolk—L. P. Matthews, Atty., Natl. Bank of Comm. Bldg., reported, will apply to Corporation Court, Richmond, for franchise for ferry service for vehicles and passenger traffic between Norfolk and Newport News; terminals secured in Norfolk and Newport News; plans having steamer constructed with shallow draft to operate across middle ground Hampton Roads.

Va., Richmond—Virginia Construction Co., Inc., capital \$50,000, chartered; Ibra K. Montague, 1221 Roane St.

Va., Richmond—Burton Brothers, Inc., chartered; W. C. Burton, 2525 Hanover Ave.; soft drinks.

Motor Bus Lines and Terminals

Fla., Miami—Florida Motor Lines, C. G. Medlock, Dist. Mgr., 31 W. Central Ave., Orlando, advises announcement company would erect bus terminal at Miami was premature; nothing in this connection for some time. 11-12

Va., Montrose—Virginia Tidewater Lines, Inc., chartered; Maurice Otterback, 326 Fifth St., S. E., Washington, D. C.

Va., Staunton—S. L. Echard & Son, Inc., capital \$25,000, chartered; S. Echard, Pres.; transportation.

Railways

Ala., Dothan—Marianna & Blountstown R. R. Co., J. C. Packard, Pres. & Gen. Mgr., Blountstown, Fla., plans acquiring Alabama, Florida & Gulf Railroad, A. L. Lehm, Executive Officer, Dothan, subject to approval of Alabama Public Service Comsn., Montgomery, Ala., and Interstate Commerce Comsn., Washington, D. C.; plan extending Alabama terminal to Dothan and Florida terminal to Marianna, giving direct line between Dothan and Scott's Ferry, Fla., present terminal of Marianna and Blountstown line.

Florida—See Dothan, Ala.

Ky., Garrison—Chesapeake & Ohio Ry. Co., C. W. Johns, Ch. Engr., Richmond, Va., let contract to Reed & Lapsley, South Charleston, W. Va., at \$56,700 and \$35,600, respectively, for extension of center sidings at Garrison and Stony Point.

Md., Baltimore—Pennsylvania R. R., W. W. Atterbury, Pres., Philadelphia, Pa., reported, inquiring for about 1400 tons tires.

N. C., Wilmington—Atlantic Coast Line R. R., F. H. Fechtig, Pur. Agt., reported, ordered 1200 tons rail for subsidiary line from Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

Texas—Atchison, Topeka & Santa Fe Ry., M. J. Collins, Gen. Pur. Agt., Chicago, Ill., reported, soon inquire for several hundred freight cars.

Roads, Streets and Paving

In connection with LAND DEVELOPMENT large sums are expended for roads, streets, paving and sidewalks. Details will be found under that classification.

Proposed Construction

Ark., Clarendon—Monroe County, R. F. Milwee, County Judge, plans several miles permanent roads in 1932.

Fal., DeLand—Volusia County Commrs. rejected bids for 3 mi., Samsula Cut-off between Sanford and New Smyrna; work by convict labor.

La., Gretna—City, John Gidiere, City Engr., 422 Fifth St., plans conc. slab from curb to curb and subsurface drainage, Lavoisier St.; 2500 ft. 14 to 22-ft. conc., 6-2-3 in. thick. 11-19

La., Rayne—City Council authorized two additional paving projects.

La., Shreveport—Capt. Geo. E. Lamb, Constructing Quartermaster, Barksdale Field, has low bid from W. D. Frazier, Minden, at \$2.14 per cu. yd. for 4300 cu. yd. gravel road. 9-24

Md., Baltimore—City Bd. of Estimates, allotted \$40,000 for repairing streets and roads; George Cobb, Highways Engr.

Md., Salisbury—City Council authorized improvements to cost \$14,500, including curbs, gutters, pavement and sewage lines.

Miss., Gulfport—See Miscellaneous Construction.

Miss., Jackson—U. S. Bureau of Public Roads, Washington, D. C., approved matching \$5,000,000 to be raised by state through special bond issue with \$5,000,000 Federal aid to start work on 6000 mi. highway paving program; State Highway Comsn., C. M. Williamson, Director, Jackson, have charge of construction.

MISSOURI—State Highway Comsn., T. H. Cutler, Ch. Engr., Jefferson City, opens bids Dec. 3 for 97 roads and 68 bridges, involving \$3,400,000, in following counties:

Atchison—4.218 mi., 3.897 mi. gravel, Tarkie east, 167,239 cu. yd. excavation, 10,153 cu. yd. pavement, I-beam bridge and double box bridge, 19-1A, 18-2;

Harrison—3.542 mi., 3.524 mi. graded earth, Cainsville-Route 4, 102,258 cu. yd. excavation, 88,410 lb. struc. steel, 5 I-beam bridges, SB-1, SB-2; 0.892 mi. graded earth, Cainsville-Route, SB, 13,838 cu. yd. excavation, 46,400 lb. struc. steel, I-beam bridge SN-2;

Chariton—4.209 mi., 4.238 mi., 4.002 mi., 3.462 mi., 4.267 mi. gravel, Marcelline-Keytesville, 25,054 cu. yd. pavement, 2 I-beam bridges, 1 I-beam and truss bridge, 5-22, 5-23, 337C, 337D, 337E;

Grundy—3.510 mi., 4.617 mi., 3.350 mi., 1.375 gravel, Trenton-Galt, 204,397 cu. yd. excavation, 722 cu. yd. conc. in culverts, 1915 cu. yd. conc. in culverts, 406,900 lb. struc. steel, 16,814 cu. yd. pavement, 3 I-beam bridges, 1 double box, 1 slab bridge, 116B, 330A, 330-B, 330C;

Livingston—2.330 mi., 3.419 mi. gravel, Chillicothe-northwest, 15,413 cu. yd. excavation, 16,420 cu. yd. excavation, 5016 cu. yd. pavement, I-beam bridge, SA-2, SA-3; 2.367 mi. gravel, Samsel-Route SA 7350, cu. yd. excavation, 2111 cu. yd. pavement, SM-1;

Randolph—4.396 mi., 4.375 mi., 3.400 mi. graded earth, Clifton Hill-north, 37,293 cu. yd. excavation, 2 I-beam, double box bridges, SE-1, SE-2, SE-3;

Audrain—3.968, 2.466 mi. gravel, Centralia-north, 9874 cu. yd. excavation, 6062 cu. yd. pavement, SC-1, SC-2;

Clark—1.723 mi., 3.863 mi. gravel, St. Patrick-N & S, 4029 cu. yd. excavation, 5404 cu. yd. pavement, box bridge, ST-4, SE-1;

Knox—1.533 mi. gravel, Hurdland west, 2962 cu. yd. excavation, 1455 cu. yd. pavement, SZ-1; 1.088 mi. gravel, Newark-east, 2708 cu. yd. excavation, 1088 cu. yd. pavement, SB-3;

Lewis—1.993 mi. gravel, Newark-Route SD, 1282 cu. yd. excavation, 1873 cu. yd. excavation, SB-4; 2.407 mi. gravel, LaBelle-south, 2784 cu. yd. excavation, 2306 cu. yd. pavement, SD-3;

Pike—4.918 mi. gravel, Ashley south, 6623 cu. yd. excavation, 4633 cu. yd. pavement, SA-5;

Ralls—2.928 mi. gravel, Route SD-Audrain County, 2640 cu. yd. excavation, 1834 cu. yd. pavement, SB-2;

Scotland—4.476 mi., 4.294 mi. gravel, Memphis-west, 82,065 cu. yd. excavation, 10,015 cu. yd. pavement, 310A, 310B;

Shelby—3.461 mi., 3.466 mi. gravel, Knox County-Bethel, 81,405 cu. yd. excavation, 8700 cu. yd. pavement, 15-17, 15-18;

Benton—1.197 mi. 20-ft. conc., Route 65-Warsaw, 2394 cu. yd. excavation, 14,141 sq. yd. pavement, 65-67B;

Clay—1.175 mi. crushed stone, Route 71-Platte County, 21,025 cu. yd. excavation, 1482 cu. yd. pavement, deck girder bridge, SV-1; 1.114 mi. 20-ft. conc.;

Jackson—1.748 mi., 3.440 mi., 4.754 mi., 4.705 mi., 1.392 mi., 1.114 mi. 20-ft. conc., 0.848 mi. 40-ft. conc., Independence east, 598,160 cu. yd. excavation, 1761 cu. yd. conc. in culverts, 6828 cu. yd. conc. in bridges, 243,137 sq. yd. pavement, 2 double box, 7 deck girder, 2 slab bridges, 61A, 61B, 61C, 61E, 61F 61G;

Miller—3.292 mi., 2.644 mi. gravel, Tusculumbia-Iberia, 76,999 cu. yd. excavation, 7454 cu. yd. pavement, double box bridge, 17-6A; 3.976, 1.426 mi. gravel, California-Elden, 20,705 cu. yd. excavation, 5081 cu. yd. pavement, double box bridge, SJ-5, SJ-6;

Moniteau—3.123 mi., 2.268 mi., 4.526 mi. gravel, California-Elden, 26,779 cu. yd. excavation, 9426 cu. yd. pavement, double box bridge, SJ-2, SJ-3, SJ-4;

Morgan—3.918 mi., 3.786 mi., 3.649 mi. gravel, Florence-south, 24,555 cu. yd. excavation, 10,722 cu. yd. pavement, SA-3, SA-4, SA-5;

Osage—4.942 mi. gravel, Westphalia-Meta, 5153 cu. yd. excavation, 4698 cu. yd. pavement, SM-1;

Crawford—0.685 mi. gravel, Dent County-north, 8640 cu. yd. excavation, 800 cu. yd. pavement, 19-8; 4.190 mi. gravel, Bourbon-Argo, 7138 cu. yd. excavation, 45,400 lb. struc. steel in bridges, 5253 cu. yd. pavement, I-beam bridge, SC-1, SC-2;

Perry—4.938 mi. gravel, Uniontown-Wittenberg, 580 cu. yd. excavation, 3734 cu. yd. pavement, SA-3;

St. Francis—3.004 mi. gravel, Bismark-Elvins, 43,557 cu. yd. excavation, 3828 cu. yd. pavement, deck girder bridge, 32-32;

Ste. Genevieve—3.122 mi., 3.137 mi. gravel, Zeil-Ste. Genevieve, 69,141 cu. yd. excavation, 84,477 cu. yd. pavement, 32-42, 32-43;

St. Louis—2.599 mi., 0.514 mi. 20-ft. conc. St. Louis-Allenton, 128,219 cu. yd. excavation, 2046 cu. yd. conc. in bridges and culverts, 38,102 sq. yd. pavement, 3 deck girder, 1 box bridges, 66TR-5;

Barton—2.822 mi., 2.728 mi. chats, Route 160-south, 25,078 cu. yd. excavation, 5210 cu. yd. pavement, SZ-1, SZ-2;

Lawrence—0.455 mi. crushed stone, Mt. Vernon-Aurora, 12,304 cu. yd. excavation, 376 cu. yd. pavement, SE-2A;

St. Clair—2.273 mi., 4.488 mi. gravel, Appleton City-Lowry City, 1278 cu. yd. excavation, 6411 cu. yd. pavement, SA-4, SA-5;

Christian—4.908 mi. crushed stone, Chadwick-Garrison, 18,216 cu. yd. excavation, 2584 cu. yd. pavement, 1.583 mi., 2.699 mi. gravel, Highlandville-south, 44,017 cu. yd. excavation, 4295 cu. yd. pavement, 65-107B, 65-108B;

Dallas—2.735 mi. gravel and crushed stone, Route 64-Tunas, 25,677 cu. yd. excavation, 2733 cu. yd. pavement, 73-75; 3.774 mi. gravel and crushed stone, Tunas-Leadmine, 10,907 cu. yd. excavation, 2400 cu. yd. pavement, SE-1;

Webster—4.115 mi., 3.924 mi. gravel, Marshfield-Diggins, 5236 cu. yd. excavation, 5739 cu. yd. pavement, double box bridge, SA-1, SA-2A;

Phelps—4.307 mi., 4.498 mi., 4.214 mi. gravel and crushed stone, Rolla-Salem, 120,958 cu. yd. excavation, 2050 cu. yd. conc. in bridges and culverts, 15,056 cu. yd. pavement, 1 triple box, 2 deck girder, 1 slab, 1 double box bridge, 72AP-1, 72AP-2, 72AP-3;

Dent—4.038 mi., 4.536 mi., 4.316 mi. gravel, Rolla-Salem, 156,403 cu. yd. excavation, 1747 cu. yd. conc. in culverts and bridges, 212,140 lb. struc. steel, 12,054 cu. yd. pavement, 2 double box, 1 I-beam and truss, 1 deck girder bridge, 72AP-4, 72AP-5, 72AP-6; 0.018 mi. I-beam bridge, Salem-Lenox, 29,800 lb. struc. steel, SD-2;

Howell—2.010 mi. gravel, West Plains-east, 9450 cu. yd. excavation, 1354 cu. yd. pavement, double box bridge, SC-1; 4.462, 4.868 mi. graded earth, West Plains-east, 21,698 cu. yd. excavation, double box bridge, SC-2, SC-3;

Oregon—2.043 mi. graded earth, Route 19-Couch, 10,812 cu. yd. excavation, SA-2; 3.699 mi. graded earth, Thayer east, 4777 cu. yd. excavation, SD-5; 4.318, 1.826 mi. graded earth, Route SA to Route SD, 19,476 cu. yd. excavation, SE-3, SE-4;

Wright—0.521 mi. gravel, Hartville-Mansfield, 10,186 cu. yd. excavation, 869 cu. yd. pavement, deck girder bridge, 5-84B;

Butler—3.527 mi. gravel, Ripley County-Neelyville, 2923 cu. yd. pavement, SB-1A; 5.000 mi. gravel, Route 60-Bresley, 31,707 cu. yd. excavation, 67,000 lb. struc. steel, 4690 cu. yd. pavement, I-beam bridge, SC-1;

Cape Girardeau—0.594 mi. 20-ft. conc., Dutchtown-south, 11,184 cu. yd. excavation, 2322 cu. yd. conc. in bridges, 533,000 lb. struc. steel, 2748 sq. yd. pavement, truss and I-beam bridge, 25-27; 3.566, 4.223 mi. gravel, Daisy-Millerville, 28,720 cu. yd. excavation, 8514 cu. yd. pavement, SB-1, SB-2;

Dunklin—4.079 mi., 2.931 mi. gravel, Cardwell-Bucada, 15,689 cu. yd. excavation, 5905 cu. yd. pavement, I-beam bridge, CV-2, CV-3;

New Madrid—4.999 mi., 4.856 mi. gravel, Portageville-Linda, 79,192 cu. yd. excavation, 124,830 lb. struc. steel, 4704 cu. yd. pavement, 7 I-beam bridges, Ref. 1-1A, Ref. 1-1B;

Ripley—4.811 mi. gravel, Doniphan-south, 61,705 cu. yd. excavation, 55,650 lb. struc. steel, 6012 cu. yd. pavement, 2 double box, 1 I-beam bridge, 21-52;

Mo., Cape Girardeau—City Council passed resolution declaring it necessary to pave 2 blocks, Merriwether St.

Mo., Clayton, St. Louis—St. Louis County, Roy Jablonsky, Highway Engr., opens bids Dec. 2 for improving Strodtman road.

Mo., Kansas City—City, Matthew S. Murray, Dir. Public Works, has low bid from McTernan & Halpin Construction Co., Swope Parkway and South Peter St., at \$15,601, for 8-in. conc. paving Summit St.

Mo., St. Louis—City, Bd. of Public Service, City Hall, acquired property for widening Natural Bridge Ave.

N. C., Fort Bragg—Constructing Quartermaster has low bid from C. V. York Construction Co., Odd Fellows Bldg., Raleigh, at \$105,675, for paving, on basis of terra cotta piping; R. G. Lassiter Co., Washington, N. C., and Raleigh Bank & Tr. Bldg., Raleigh, \$107,800, using conc. pipe. 10-22

South Carolina—State Highway Dept., Ben M. Sawyer, Ch. Highway Commr., Columbia, opens bids Dec. 1 for 22.117 mi. bitum. surfacing, Route 49, Myrtle Beach to intersection with Pawleys Island road, Waverly Mills, Horry-Georgetown Counties, 118,924 cu. yd. excavation, 63,594 cu. yd. sand surfacing, 286,025 sq. yd. bituminous (mixed-in-place) base course, 285,000 gal. additional cut-back asphalt for base course, 260,022 sq. yd. bitum. surfacing (without prime), 39,000 gal. additional cut-back asphalt for seal coat, 12,013 cu. yd. material for shoulders, 223.03 cu. yd. class "A" conc., 168.35 cu. yd. "B" 21,031.5 lb. rein. steel, 5355 lin. ft. rein. conc. pipe, 100 tons rip-rap.

S. C., Columbia—See Want Section—Bids Asked—Cement.

Tenn., Chattanooga—City, Dept. of Streets and Sewers, W. H. Wilson, City Engr., plans widening Georgia Ave.

TEXAS—State Highway Comsn., Glibb Gilchrist, Highway Engr., Austin, opens bids Nov. 30 and Dec. 1 for 26 roads in following counties:

Liberty—7.841 mi. conc., Montgomery County line to San Jacinto County line with 2.3 mi. exception through Cleveland, Highway 35, FAP 125-Reop., 426-A Reop., U-2;

Bowie—6.304 mi. grading, draining, 1.7 mi. west of DeKalb to Red River County line, Highway 5, SP 137-Reop.;

Harrison—0.575 mi. grading, draining, Little Cypress Creek east to Marshall, SP 993-A;

Bexar—14.907 mi. grading, draining, Salado Creek bridge east to Cibole Creek bridge, Highway 3-A, FAP 633-A;

Cherokee—4.413 mi. grading, draining, ¼ mi. east of Maydelle to Oakland, SP 251-C, Highway 22;

Fayette—6.259 mi. grading, draining, Winchester road north to Lee County line, SP 955-B, Highway 44;

Bexar—14.9 mi. grading, draining, Highway 3-A, San Antonio to Guadalupe County line;

Bowie—6.3 mi. grading, draining, Highway 5, 1-7 mi. west of DeKalb to Red River County line;

Cherokee—4.4 mi. grading, draining, Highway 22;

Fayette—6.2 mi. grading, draining, Highway 44, Winchester road to Lee County line;

Liberty—7.8 mi. widening embankments and conc. pavement, Highway 35, Montgomery County line to San Jacinto County line;

Wilson—9.903 mi. grading, draining, Highway 132, Guadalupe County line south to Stockdale, SP 769-E, Unit 1, Nov. 30;

Navarro—3.965 mi. rein. conc. pavement, Highway 14, end FAP 569-C through Corsicana to end FAP 569-A, FAP 569-B, Unit 2, Nov. 30 or Dec. 1;

Houston—7.024 mi. rein. conc. pavement ment (water cement ratio), Highway 19, Crockett north to 2.1 mi. north Latexo, Crockett Road Dist. line, SA 631-B and FA 485-B, Unit 2, Dec. 1; 8.546 mi. rein. conc. pavement, Highway 21, 8.546 mi. northeast of Crockett to Crockett, FA 4990A, Unit 2; Nov. 30 or Dec. 1;

Refugio—37.035 mi. jetting and ponding, Highway 128, San Patricio County line to

connection with Highway 113 at Victoria County line, SA 840-A & D, Nov. 30;

Tarrant—7.930 mi. grading, draining, conc. paving, Highway 10, Fort Worth city limits to junction Highway 121, Dec. 1;

Wise—6.409 mi. crushed conglomerate base, Highway 34, Parker County line to Jack County line, Dec. 1;

Uvalde—33.763 mi. gravel base and ½-in. limestone rock asphalt surface treatment, Highway 65, M-15-W-3; Nov. 30;

Guadalupe—13.343 mi. grading, draining, Highway 3-A, FAP 633-B, Nov. 30;

Lubbock-Hockley—17.189 mi. caliche base with triple asphalt surface treatment, Highway 7, FAP 503-A, U-2, Nov. 30;

Robertson—16.674 mi. grading, conc. drainage structures, Road Dist. 2, Highway 43, FAP 582-C, Dec. 1;

Jack—10.994 mi. traffic bound broken stone base courses, Highway 34, SP 859-H, U-2, Nov. 30;

Hopkins—14.268 mi. grading, draining, Highway 154, SP 950-C, Dec. 1;

Crockett-Pecos—6.923 mi. grading, draining, FAP 619-A & B, Nov. 30;

Brown—13.676 mi. caliche water bound broken stone macad. base course with triple asphalt surface treatment, Highway 7, FAP 583-A & B, Unit 2, Dec. 1. 11-19

Tex., Dallas—City Council authorized engineering surveys on Ross Ave., S. Lamar St. and others to be paved, \$25,000; O. H. Koch, Dir. of Public Works.

Tex., Denton—City, B. W. McKenzie, Mayor, has preliminary plans for paving, widening, bridge, Bell Ave.; \$15,000.

Tex., Perryton—Ochiltree County Court soon let contracts for caliche base, penetration top surfacing, Highway 117 across county.

VIRGINIA—State Dept. of Highways, C. S. Mullen, Ch. Engr., Richmond, has low bids for 3 roads and bridge in following counties:

Henrico—9 mi. bitum., Route 39, Atlantic Bitulithic Co., Munsey Bldg., Washington, D. C., \$23,761;

Campbell—bridge over Flat Creek, Route 43, R. G. Witt & Co., Marion, \$4269;

Pittsylvania—2 mi. soil, Route 57, M. S. Hudgins, 23 Second St., South, Roanoke, \$23,178;

Halifax—3 mi. soil, Route 57, Nello L. Teer, Amherst, \$12,390. 11-5

Va., Roanoke—City Council authorized acquisition of right-of-way for opening Patterson Ave. to Shaffer's Crossing underpass; approved constructing curb and gutter, Staunton Ave.; also stone base, Mountain View Terrace.

Contracts Awarded

GEORGIA—State Highway Bd., J. W. Barnett, Chmn., Atlanta, let contracts for 4 roads and 3 bridges, involving \$387,058, in following counties:

Pike—8.708 mi. paving, Thomaston-Zebulon Highway, Carolina Contracting Co., 1112½ Taylor St., Columbia, S. C., \$140,398;

Carroll—4.071 mi. paving, widening bridge, Carrollton-Villa Rica road, Davis Construction Co., Rhodes-Haverty Bldg., Atlanta, \$72,509;

Clark-Oconee—3.57 mi. paving, widening bridge, Athens-Watkinsville Highway, Davis Construction Co., \$84,732;

Twiggs-Williamson—10.78 mi. grading, Maccon-Dublin road, A. H. Singer Co., Lafayette, Ala., \$42,849; Project 2, same highway, bridge, Davis & Co., Moultrie, \$7964;

Wilkes-Eibert—bridge over Broad River, Washington-Elberton road, F. A. Triplett Co., Cheraw, S. C., \$38,606. 11-12

La., Crowley—City Council let contract to McGuire & Cavender, Texarkana, Tex.-Ark., for paving Ave. G.

La., Mer Rouge—City, Mayor and Bd. of Aldermen, let contract to S. E. Johnson Co., Inc., Toledo, Ohio, for 2 blocks paving in business district. 11-5

Okla., Arapaho—Custer County, Jesse Hattchett, County Clk., let contracts for road and bridge, Sec. B, 3.15 mi. grading, draining, Arapaho to Clinton, Highway 14, J. E. Smith & Sons, Noble, \$10,900; Sec. C, 44-ft. bridge, Portwood Construction Co., Hobart, \$7581; Carey R. Reid, Counsl. Engr., Arapaho, 11-12

Okla., Oklahoma City—City, M. Peshak, City Clk., let contract to H. E. Boecking, 1208 W. F St., at \$2.23 per yd., for paving north half of 23rd St., May to Brookline Ave.; postponed action on proposal to approve plans for paving First St., Hudson to Lee Ave. 11-19

Okla., Tulsa—City, H. A. Parker, City Engr., let contract to H. L. Cannady Co., 1116 S. Lewis St., at \$13,500, for Paving Proj. 101, 11th St. widening.

Va., Clarendon—Arlington County Supvrs. let contract to Cranford Paving Co., 3056 K St., N. W., Washington, at 23 cents a foot

for conc. curb and gutters, Virginia Highlands and Aurora Hills, \$25,000; C. L. Kinler, County Engr.

Va., Fredericksburg—Fredericksburg and Spotsylvania County Battlefields Memorial Comsn. let contract to Elk Securities Co. for 5.75 mi. earthwork, Chancellorsville Battlefield Park, and 4.3 mi. earth road, Wilderness Park.

Sewer Construction

Sewer construction in LAND DEVELOPMENT projects involves the expenditure of large sums of money. Under that classification details of these improvements are reported.

Ala., Birmingham—Jefferson County, W. E. Corning, County Commr., C. J. Rogers, County Engr., Room 216, Court House, advises nothing done in regards Shades Valley sewer; preparing plans for Ensley and Bessemer sewage plant. 10-29

Md., Baltimore—C. Martell, 4517 Pimlico Rd., reported, low bidder at \$19,049, for sewers, Sanitary Contr., 287. 11-12

Md., Salisbury—City, reported, plans sewers, Powell Ave.

Mo., Richmond Heights, St. Louis—H. A. Henske, 401 Laurel Ave., St. Louis, has contract for sanitary sewers in Dist. No. 3.

Okla., Durant—City votes Dec. 9 on \$50,000 sewage disposal system bonds. 11-12

Okla., Oklahoma—City, L. M. Rush, Engr., reported, soon call election on \$200,000 sanitary main sewer bonds and \$725,000 sewage disposal plant. 11-19

Okla., Ponca City—Moriarty & Carter, 7 N. Rockford St., Tulsa, reported, low bidders at \$15,000 for sanitary and \$11,000 for storm sewers; C. E. Norton, Clk. 11-5

S. C., Spartanburg—City, T. H. Daniel, Chmn., Metropolitan Sewerage Comsn., reported, considering \$70,000 bond issue for water and sewers in Bon Avon section; preliminary survey made by Harwood Beebe, Engr.

Tex., Dallas—City, F. N. Baldwin, Asst. City Engr., advises have plans and specifications in progress for 2 storm sewers at total cost of \$400,000; storm sewers are mostly tunnel work through solid rock; plans and specifications will probably be ready for bids in Dec.; \$500,000 sanitary sewer improvements being constructed with city forces. 11-19

Tex., Dallas—City, John N. Eddy, City Mgr., advises received plans for second unit for sewage disposal plant, for which bonds have been voted, but not sold; improvements will probably not be constructed prior to fall of 1932. 11-19

Tex., Houston—Elder Construction Co., 4712 Jack St., has contract for sewers; install monolithic and precast pipe; J. M. Nagle, City Engr. See Want Section—Machinery and Supplies.

W. Va., Parkersburg—John D. Greenwads, 2687 Collis Ave., Huntington, reported, low bidder at \$65,924, for sanitary sewers, Dist. No. 2, Beechwood section. 11-5

Telephone and Radio

Ga., Atlanta—Barge-Thompson Co., 136 Ellis St., N. E., reported, has contract for improvements Auburn Ave. & Exchange Place N. E., for Southern Bell Telephone & Telegraph Co., Hurt Bldg.

La., Shreveport—KGFF Broadcasting Co., Inc., reported, granted license covering new equipment.

Tex., Amarillo—Southwestern Bell Telephone Co., B. D. Hull, Ch. Engr., Dallas, reported, will apply for new franchise; present franchise expires in 1932.

West Virginia—C. R. Cummins, Propr. of Station WRAK, Williamsport, Pa., reported, applied to Federal Radio Comsn. for permission to erect low powered radio stations in Morgantown, Parkersburg, Clarksburg, Moundsville and Bluefield.

Textile Mills

Ala., Anniston—Lengel-Fencil Co., S. Oxanna St., reported, installing 14 full fashioned machines, cost \$112,000; increase capacity 70%.

Ga., Newnan—Newnan Hosiery Mills, Inc., advises recent report company would erect dye house is without foundation. 11-5

Miss., West Point—Sam N. Hodges Co., Erlanger Bldg., Atlanta, Ga., reported, low bidder for mill unit for Aponaug Mfg. Co.; 1 story; 237x133 ft.; rein. conc.; steel; brick

walls; comp. roof; Robert & Co., Engrs., Bona Allen Bldg., Atlanta, Ga. 11-5

N. C., Asheboro—Pilot Hosiery Mills, B. T. Dell, Pres., leased building, Salisbury and Ross St., for mill.

N. C., Charlotte—Southern Engineering Co., Little Pittsburg, Charlotte, reported, has contract for 105 tons struc. steel for extension Hudson Silk Hosiery Co.'s plant. 10-19

N. C., Granite Falls—J. A. Turnmyre, Granite Falls, reported, has contract for hosiery mill for W. E. Poovey and H. V. Bolick; 2 stories; brick and wood; 50x65 ft.

S. C., Laurens—Cox & Hodgins, Emaxcee Bldg., Greenville, reported, have contract for remodeling and repairing building to be occupied by Katterman-Mitchell, Paterson, N. J., silk mill; Roy Martin, Anderson, contract for replacing roof. 11-5

Tenn., Loudon—W. H. Sears, Archt., James Bldg., Chattanooga, preparing plans for full fashioned hosiery mill for Charles H. Bacon Co., Lenoir City. 11-19

Va., Charlottesville—Charlottesville Woolen Mills, D. Van Wagenen, Pres., receiving bids for addition to mill; 4 stories and basement, brick and steel; replace several smaller obsolete bldgs.; machinery from old buildings will be transferred to new; Lockwood Greene Engineers, 100 E. 42nd St., New York, prepared plans and will supervise construction.

W. Va., Parkersburg—Ballinger Co., S. E. Cor. 12th and Chestnut Sts., Philadelphia, Pa., Archts. and Engrs., advise contract awarded to Combustion Engineering Co., 200 Madison Ave., New York, covering new boiler and pulverized coal burning equipment to be installed in Viscose Co.'s plant. 10-22

Water Works

Details of water works improvements in connection with the many LAND DEVELOPMENT operations will be found under that Classification.

Fla., Lake City—McClelland Co., Latta Arcade, Charlotte, N. C., has contract at \$25,000 for water system at U. S. Veterans Hospital. 11-5

Ga., Palmetto—Hamilton & Sullivan, Bremen, reported, have contract for deep well in connection with improvements by Palmetto Cotton Mill; Robert & Co., Inc., Engrs., Bona Allen Bldg., Atlanta.

Ky., Ashland—See Want Section—Bids Asked.

Md., Smithsburg—City votes Dec. 10 on bond issue to complete water works system.

Mo., Princeton—City, Chas. A. Haskins, Engr., Finance Bldg., Kansas City, expend \$35,000 for water works extension; lay 7600 ft. of 4 and 6-in. pipe; construct 30,000 gal. clear well and iron removal plant, and 75,000 gal. elevated steel tank; install two 200 g.p.m. centrifugal pumps and two 100 g.p.m. turbines; bids in. 11-19

Okla., Shawnee—City, W. F. Flood, City Engr., voted \$200,000 water works bonds; construct lime softening plant; all plans and work by city; plans out Feb. 1. 10-22

Tenn., Memphis—See Want Section—Bids Asked.

Tex., Cisco—City construct treatment plant at Lake Cisco.

Tex., Fort Worth—Jas. A. Wetmore, Supvg. Archt., Washington, receives bids Dec. 11 for deep well water supply for U. S. post office.

W. Va., Williamstown—City, reported, defeated \$20,000 bond issue for water system. 11-5

Woodworking Plants

Tenn., Nashville—Finished Flooring Corp., H. A. Batchelor, Pres., S. Fifth St., reported, leased former plant of Tennessee Oak Flooring Co., foot of Fifth St.; making alterations and installing machinery; manufacture under brand Beau Parquet.

Tex., Jasper—Evans Products Co., Inc., 33rd Floor Union Trust Building, Detroit, Mich., reported, construct crate and wood products plant, 12 units; 2 to be erected at once.

FIRE DAMAGE

Ala., Selma—Patillo & Russell Wholesale Grocery Co., Water St.; H. G. Patillo and E. P. Russell, owners; loss \$125,000.

La., Franklin—Syrup plant of W. B. Roddenberry & Co.; loss \$15,000.

La., Port Barre—Hotel and 3 bldgs. owned by Chas. O. Dejean; Ben Preesburg's meat market; J. H. Domec's ice house; 2 bldgs. owned by A. F. Watkins, Opelousas; loss \$20,000.

Miss., Greenwood—Bldg. occupied by Richardson & Ferguson (cotton offices) and Alf George; loss \$6000 to \$9000.

Miss., Monticello—Lawrence County court house; loss \$35,000.

Miss., Philadelphia—J. D. Land's dwelling, Byrd Ave., occupied by J. L. Land.

Miss., Winona—S. J. Peele Lumber Co.'s plant; loss \$25,000.

Mo., Cape Girardeau—O. P. Adams' residence, 1107 Broadway; loss \$5000 to \$6000.

Mo., Neelyville—Cotton gin owned by Clay County Cotton Co.; L. G. Black, Corning, Ark.; loss \$25,000.

N. C., Goldsboro—D. O. Allen's residence, E. Mulberry St.

N. C., Raleigh—Salvation Army bldg., Capt. L. Shackelford.

N. C., Selma—Dan M. Hayes' residence, W. Anderson St.

N. C., Wake Forest—Cotton warehouse of W. H. Holding.

N. C., Wilmington—Clubhouse of Cape Fear Country Club; loss \$10,000.

Tenn., Johnson City—Gulf Refining Co.'s storage plant; loss \$30,000.

Tenn., Mountain City—Furniture plant of Segal Mfg. Co., 100 Nott Ave., Long Island City, New York.

Tenn., Nashville—Shaw Drug Co. bldg., loss about \$50,000; hotel operated by Myers & Underwood, loss \$10,000.

Tex., Fort Worth—Five dwellings owned by Clarence Jones, 4411 Jones St.; Earl Ralston's residence, all 4200 block Jones St.; loss \$15,000.

Tex., Frost—Frost Cotton Warehouse; loss \$40,000.

Tex., Galveston—Bleich Bldg., occupied by M. N. Bleich, feed and grain; loss about \$35,000.

Tex., Nacogdoches—College Grocery Store and Coffee Shop; loss \$10,000.

Tex., Spofford—Mrs. W. R. Long's residence.

Va., Luray—Luray Methodist Church; loss \$65,000.

Va., Roanoke—Garage of Vinton Auto Sales Co.

BUILDING NEWS

BUILDINGS PROPOSED

Association and Fraternal

Ala., Dothan—Prospective estimators on lodge bldg. for Ancient Free and Accepted Masons, date of bids not determined; H. H. Brown, Dothan; Jacobs & Herrington, Ashford; Sam Hollingsworth; H. S. Harville, both Troy; E. S. Hugger, 205 Parallel St.; Jehly Bros., Shepherd Bldg., both Montgomery; Edw. Okel, Archt., Bell Bldg., Montgomery. 11-19

Ala., Sheffield—James R. Crowe Post, Am-

erican Legion, Hoyt Greer, Chmn., Bldg. Comm., approved plans for clubhouse.

La., Monroe—Knights of Columbus have low bid at about \$14,000 from W. C. Salley, Ouachita Natl. Bank Bldg., for clubhouse; J. W. Smith & Associates, Archts., Ouachita Natl. Bank Bldg. 11-5

S. C., Columbia—Congaree Aerie, Fraternal Order of Eagles, C. J. Niggel, Trustee, opens bids Nov. 30 for 2-story store and lodge bldg.; \$10,000 to \$12,000; Wessinger & Stork, Archts., Arcade Bldg.

Churches

Ky., Warsaw—Baptist Church, Rev. W. M. Smith, Pastor, plans bldg.

Mo., Webster Groves, St. Louis—Evangelical Congregational Church plans building.

S. C., Charleston—St. Matthews Lutheran Church has low bid at \$25,449 from Dawson Engineering Co., Inc., 10 Gillon St., for parish house; brick and frame, wood joist floor, struc. steel, 2 stories and basement, hardwood and tile floors, comp. roof, conc. foundation, steam heat; Simons & Lapham, Archts., 42 Broad St.

Tex., San Antonio—St. Johns E. L. Church, Henry F. Hein, Chmn., Bldg. Comm., 600 Goliad St., having working drawing made for \$80,000 bldg., Nueva and S. Presa Sts.; Gothic type, 19x19-ft. tower, 72 ft. high, 1 story, 45x130 ft., oak roof truss and purlins, oak and tile floors; seat about 650; Eickenroht, Archt., 710 Maverick Bldg. 9-17

Va., Luray—Luray Methodist Church, Rev. R. C. Maxwell, Pastor, will select architect for bldg. to replace church noted burned at \$65,000 loss, including \$10,000 pipe organ loss.

City and County

La., New Orleans—City Comn. Council probably call for new bids on \$250,000 Touro-Shakespeare Almshouse, Algiers; face brick and stucco, cast stone, conc., terrazzo and wood floors, rein. steel, cast and wrought iron, steel windows, art glass, tile roof, sheet metal work, screen, septic tank, cement waterproofing, stone flagging, elec. dishwashers, refrigeration system, hot water heat; Wm. R. Burk, Archt., 11-27-30

Okla., Muskogee—Muskogee County Bd. of Commrs. selected Layton, Hicks & Forsyth, Braniff Bldg., Oklahoma City, as archts. for jail on top of court house. 11-12

Okla., Oklahoma City—City, M. Peshek, Jr., Clk., plans election in Spring on \$650,000 city hall bonds; A. H. Jacoby, Chmn., Bldg. Comm.

Okla., Pawnee — Pawnee County Bd. of Commrs. open bids Dec. 7 for court house; \$140,000, brick, stone and rein. conc., 5 stories; jail on top floor, 85x100 ft.; Smith & Senter, Archts., Philtower Bldg., Tulsa. 9-3

Dwellings

D. C., Washington—F. B. Mills, 44 Longfellow St., N. E., has permit for 3 brick dwellings, 1308-12 Allison St., N. E.; 2 stories; total \$18,000.

D. C., Washington—F. C. Kendrick, 4930 47th St., erect brick and cinder block residence, 47th near Fessenden St.; 2 stories, 26x38 ft.; John W. Kearney, Archt., 1417 K St.

Fla., Miami Beach—S. J. Masters, 221 N. E. 21st St., remodel and enlarge residence, Prairie Ave. and W. 23rd St.; tile work; Martin L. Hampton, Archt.; probably day labor.

Fla., Miami Beach—Mrs. Fannie Hyman, 1242 Pennsylvania Ave., erect bungalow, etc., West Ave. near 14th Terrace; rein. conc., conc. block and stucco; B. Kingston Hall, Archt., 133 Sixth St.; owner probably build.

Md., Annapolis—Harry M. Nichols, 3706 N. Charles St., rebuild residence, Tydings-on-the-Bay, Anne Arundel County, lately noted burned at \$65,000 loss; frame, 2 stories. 11-12

Mo., St. Louis—Chas. M. Huttig, Pres., St. Louis Lumber Co., 2509 S. Broadway, erect English type residence, Lake Forest; 2 stories; Trueblood & Graf, Archts., Chemical Bldg.

Mo., St. Louis—Wm. B. Chase, 5646 Chamberlain St., started work on 6-room English residence, Glen Echo Drive, Bel-Nor.

Mo., St. Louis — Clarence Greve started work on 6-room residence, Racquet Drive, Bel-Nor.

N. C., Durham—Miss Rose Silver has permit for \$10,000 residence, 1014 Minerva Ave.; brick veneer, 2 stories.

Tex., Fort Worth—Dr. Nelson L. Dunn, Medical Arts Bldg., has permit for brick veneer residence, 2600 Sixth Ave.; \$16,500.

Va., Berryville—Geo. Melville Moore, 491 Ocean Pkwy., Brooklyn, New York, purchased 158-acre tract, Shenandoah River at Castleman's Ferry; erect residence.

Government and State

Ala., Maxwell Field, Montgomery—Constructing Quartermaster has low bid at \$218,414 from Samford Bros., Inc., 301 Washington Ave., Montgomery, for 21 company officers' quarters. 10-29

Fla., Fort Lauderdale—Prospective estimators on barracks, U. S. Coast Guard Section Base No. 6, bids Dec. 1 by U. S. Coast Guard Headquarters, Washington; Fred Howland, 1000 N. E. 14th St.; J. Y. Gooch & Co., Bedford Bldg.; R. G. Witters Co., 1745 S. W. Sixth St.; Chas. B. Colby & Son, 3081 Day Ave.; M. R. Harrison Construction Co., Inc., 500 N. E. 45th St.; Sandquist Construction Co., 2602 S. W. 28th Lane; Hintz Construction Co.; Ebsary Foundation Co., 1050 Biscayne Blvd., all Miami; Arthur H. Higgins; J. C. Gaffney Co., 1708 Collins Ave.; R. W. Edholm, Inc., 835 Lincoln Road; O'Neill-Orr Construction Co., 212 N. E. Fourth St., all Miami Beach; O. P. Woodcock Construction Co., Duval Bldg.; R. E. Spaulding, 1252 Windsor Place, both Jacksonville, Fla.; Saml. F. Winters, Box 2923; L. W. Buchard; Hart & Johnson; Raymond-Clopp, Inc.; Olson & Co.; J. A. Hunt; Miller & Baker, all Fort Lauderdale; Fuquay & Gheen, Inc., 128 Broadway, Daytona Beach. 11-19

Fla., Miami—Prospective estimators on \$65,000 quarantine station, bids Dec. 10 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington; Becker Construction Co., 2123 Granada Blvd.; Rodney Miller, Inc., 2618 Alhambra Circle; A. E. Hutchinson, 43 Sidonia Ave., all Coral Gables, Miami; M. R. Harrison Construction Co., N. E. 45th St.; St. John Construction Co., 629 N. W. Seventh St.; Shoreline Builders, Inc., 306 S. W. North River Drive; M. H. Connelly, 1540 S. W. First St.; R. G. Witters Co., 1745 S. W. Sixth St., all Miami; Chas. B. Colby & Son, Bay St., Coconut Grove, Miami; Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala.; Universal Construction Co., Med. Arts Bldg., Fort Wayne, Ind.; Theriault Contracting Co., 537 E. Johnson St., Philadelphia, Pa.; Roach-Lecoutour Construction Co., First Natl. Bank Bldg., St. Louis, Mo.; Dietrich Bros., Metropolitan Bldg., Washington; Wm. S. Green Co., 1237 20th St.; Berry & Son, 1327 20th St., both Miami Beach. 11-19

Ga., Albany—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, opens bids Dec. 9 to remodel and enlarge post office and court house.

Ga., Atlanta—Barge-Thompson Co., 136 Ellis St., N. E., Griffin Construction Co., Red Rock Bldg., and Southern Ferro Concrete Co., Atlanta Trust Bldg., all Atlanta, estimating on superstructure of \$1,500,000 post office and Federal bldg., bids Dec. 28 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington. 11-19

Ga., Columbus—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, selected E. Oren Smith, 910 Benning Blvd., Columbus, and Edwards & Sayward, 101 Marietta Bldg., Atlanta, as architects for \$410,000 post office, Second Ave. and 12th St.

Ga., West Point—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid at \$39,446 from Barge-Thompson Co., 136 Ellis St., N. E., Atlanta, Ga., for post office. 11-12

La., Barksdale Field, Shreveport — Constructing Quartermaster opens bids Nov. 30 for kitchen equipment in air corps barracks. 11-19

La., Barksdale Field, Shreveport—Constructing Quartermaster has low bid at \$56,394 from W. C. Salley, Ouachita Natl. Bank Bldg., Monroe, for headquarters bldg., Barksdale Field. 11-19

La., Morgan City—Additional prospective estimators on \$75,000 post office, bids Nov. 27 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington; Chas. Stubner, Balter Bldg.; J. M. DeFraithe, Inc., 612 State St., both New Orleans, La.; Rheiner & Kroeger, Box 1451, San Antonio, Tex.; Fries & Son Steel Construction & Engineering Co., Second and Madison Sts., Covington, Ky.; C. G. Kershaw Construction Co., Crowley, La.; West Englewood Construction & Supply Co., 6239 S. Ashland Ave., Chicago, Ill.; A. J. Flagout, 916 Fourth St., Morgan City, La.; Clifford H. King, Prescott Lane, Baton Rouge, La. 11-19

Tenn., Rogersville—Prospective estimators on \$70,000 post office, bids Dec. 3 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington; Algernon Blair, First Natl. Bank Bldg., Montgomery, Ala.; S. D. Cox Co., Empire Bldg., Knoxville, Tenn.; C. A. Morrison & Son, Shelby, N. C.; F. H. Rogan Co., Rogersville, Tenn.; Rosen & Fischel, Inc., 11 S. LaSalle St., Chicago, Ill.; Earl E. Garber Co., Bethlehem, Pa.; West Englewood Construction & Supply Co., 6239 S. Ashland Ave., Chicago, Ill. 11-12

Tex., Dallas—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid at \$7300 from John M. Crain, Gary, Ind., for plastering and painting post office and court house.

Tex., Randolph Field—Constructing Quartermaster, Fort Sam Houston, San Antonio, opens bids Dec. 2 for hospital and detachment barracks kitchen equipment, Randolph Field, including pot sinks, meat slicer, utility table, cook's table, sauce pan rack, elec. mixer, butcher's box, vegetable peeler, vegetable sinks, preparation table, soiled dish table, dish washing machine, clean dish table, clean dish cupboard, cafeteria counter, guard rail, stand for ice cuber, case for compressor, ice cuber and coil, compressor for ice cuber, coffee urns, coffee urn stands, bread storage box, etc.; cabinets, refrigerators, ranges, sinks, drain boards, utility tables, fruit juice extractors, elec. mixing machines, etc. 11-19

Tex., San Benito — Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid at \$87,000 from Meriwether & Sauers, Harlingen, for post office. 11-12

Tex., Schulenburg—Atlee B. & Robt. M. Ayres, Archts., Smith-Young Tower, San Antonio, completed plans for bldg. for post office; brick and stone, 1 story, rein. conc. foundation; bids in.

Va., Langley Field, Hampton—Constructing Quartermaster has low bid from M. H. Sobel Co., Book Tower, Detroit, Mich., for 6 single and 4 double company officers' quarters; brick, hollow tile and stucco, 2 stories, 53x33 ft. and 105x30 ft., limestone, linoleum floors, steel sash, slate or tile roofs. 11-5

Va., Lynchburg—D. J. Phipps, 212 Main St., Wasena, J. F. Barbour & Sons, Colonial Amer. Natl. Bk. Bldg., both Roanoke, Va., and W. T. Jones, 216 Tenth St., Lynchburg, estimating on \$848,000 post office, court house, etc., bids Dec. 8 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington. 11-19

Va., Martinsville—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, has low bid at \$18,242 from Tioga Contracting Co., 921 W. Tioga St., Philadelphia, Pa., for post office remodeling and enlarging. 10-29

Va.-Tenn., Bristol—J. F. Barbour & Sons, Colonial Amer. Natl. Bank Bldg., Roanoke, Va., estimating on post office, etc., bids Dec. 9 by Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington. 11-19

Hospitals, Sanitariums, Etc.

Ala., Tuskegee—Veterans Administration, Arlington Bldg., Washington, has low bid from Pittman Construction Co., Rhodes Bldg., Atlanta, Ga., at \$195,200 for barrack and at \$68,200 for dining hall bldg., Veterans Administration Hospital; low bid at \$8791 from Otis Elevator Co., 810 18th St., N. W., Washington, for 2 elevators. 11-12

D. C., Washington—Dept. of Interior, has apparent low bid at \$543,900 from W. E. O'Neil Construction Co., 308 W. Washington St., Chicago, Ill., for continued treatment bldgs. Nos. 1 and 2, 1 dining hall and kitchen bldg. and connecting corridors, including plumbing, heating and ventilating, elec. work, special hospital equipment and outside service connections at St. Elizabeths Hospital; apparent low bid at \$2100 from Capital Lift & Manufacturing Co., Columbus, O., for elevator; at \$10,000 from W. F. Moody Co., A. O. U. W. Bldg., Little Rock, Ark., for refrigerating equipment. 11-12

Miss., Biloxi — Prospective estimators on Veterans Administration Home, bids Dec. 8 by Veterans Administration, Arlington Bldg., Washington; Grahm Construction Co., Red Rock Bldg.; Griffin Construction Co., 452 Spring St., N. W., both Atlanta, Ga.; Batson-Cook Co., Inc., West Point, Ga.; H. B. Nelson, 1201 Ousley Ave., Columbus, Ga.; Rogers & Leventhal, Inc., 822 E. 11th St.; A. F. Hahn Co., Chamberlain Bldg., both Chattanooga, Tenn.; Algernon Blair, First Natl. Bk. Bldg.; Samford Bros., Inc., 301 Washington Ave., both Montgomery, Ala.; J. A. Jones Construction Co., Commercial Bk. Bldg., Charlotte, N. C.; Smallman-MacQueen Construction Co., 1109 Fifth Ave., S.; C. G. Kershaw Construction Co., Woodward Bldg., both Birmingham, Ala.; Virginia Engineering Co., Inc., First Natl. Bk. Bldg., Newport News, Va.; S. & W. Construction Co., Shrine Bldg.; B. E. Buffalo & Co., 658 East St., both Memphis, Tenn.; Collins Bros. Construction Co., Biloxi, Miss.; R. P. Farnsworth & Co., Maritime Bldg.; T. A. Pittman, Inc.; O. M. Gwin Construction Co., 3501 Fern St.; Caldwell Bros., 816 Howard Ave.; J. V. & R. T. Burkes, Inc., 1112 Amer. Bk. Bldg., all New Orleans, La.; Worsham Bros., Empire Bldg., Knoxville, Tenn.; Geo. D. Auchter Co., 600 Fourth St., Jacksonville, Fla.; F. T. Rea, Gulfport, Miss.; W. P. Thurston Co., Inc., 30 S. Fourth St., Richmond, Va.; Jos. A. Holpuch Co.; Henry B. Ryan Co., 510 N. Dearborn St.; W. E. O'Neil Construction Co., 308 W. Washington Blvd., all Chicago, Ill.; James I. Barnes, Logans-

port, Ind.; National Construction Co., Tower Bldg.; United Construction Co., both Washington; M. H. Sobel Co., 510 Book Tower, Detroit, Mich.; W. J. McGee & Son, Lamar Bldg., Jackson, Miss.; Fries & Son Steel Construction & Engineering Co., Covington, Ky.; Henry L. Grohne, Biloxi; Ralph Solitt & Sons Construction Co., South Bend, Ind.; Murch Bros. Construction Co., Ry. Exch. Bldg.; Humes-Deal Co., Arcade Bldg., both St. Louis, Mo.; Rust Engineering Co., Koppers Bldg., Pittsburgh, Pa.; Stuart C. Irby Co., Jackson, Miss.; Biloxi Plumbing & Heating Co., Inc., Calhoun St., Biloxi; O'Pry Plumbing & Heating Co., Walton Bldg., Atlanta, Ga.; Keystone Heating & Equipment Corp., Shoreham Bldg., Washington; Mason & Dulton, 3024 Third Ave., South, Birmingham, Ala.; B. E. Walker Construction Co., Standard Life Bldg., Jackson; P. H. Meyer Co., 635 S. Preston St., Louisville, Ky.; Cashion Electric Co., 1231 Taylor St., Columbia, S. C.; Sodemann Heating & Power Co., 2300 Morgan St., St. Louis, Mo.; J. J. Nolan & Co., Inc., 235 Court Ave., Memphis, Tenn.; Wm. Wilby, 1112 Dallas Ave., Selma, Ala.; S. S. Richard, 123 Keener Ave., Jackson; American Heating & Plumbing Co., Inc., 829 Baronne St., New Orleans; Redmon Heating Co., 124 Fourth St., Louisville, Ky.; Ed L. Stock, Inc., 1716 H St., N. W., Washington; Bryce Plumbing & Heating Co., Florence, S. C.; R. H. Lowe, Inc., 125 Salem Ave., West Roanoke, Va.; Central Electric Co., Hattiesburg, Miss.; Gates Electric Co., Box 290, Gulfport, Miss.; St. John Electric Co., Inc., 243 S. Grand St., Monroe, La.; Huntington & Guerry, Inc., Box 408, Spartanburg, S. C.; Hart Enterprises Electric Co., Inc., 826 Baronne St., New Orleans, La.; Drake-Avery Co., 147 W. Woodbridge Ave., Detroit, Mich.; R. H. Baker Co., Inc., 238 Main St., Cambridge, Mass.; Electric Service Co., Laurel, Miss.; Frick Co., Inc., Shoreham Bldg., Washington; York Ice Machinery Corp., 1238 N. 44th St.; Pennsylvania Engineering Co., 1119 N. Howard St., both Philadelphia, Pa.; Jack Moorman, 207 Crockett St., Shreveport; Westinghouse Electric Elevator Co., 30th and Walnut Sts., Philadelphia; Warner Elevator Manufacturing Co., Cincinnati, O.; Hussman Refrigerator Div., 907 N. Broadway, St. Louis; W. F. Moody & Co., A. O. U. W. Bldg., Little Rock, Ark.; Columbus Iron Works Co., Columbus, Ga.; Southern Engineering & Supply Co., Inc.; A. G. Reddick, Inc., 619 Baronne St., both New Orleans; Vilter Manufacturing Co., Milwaukee, Wis.; Southwestern Gas & Electric Co., Gulfport, Miss.; Millner Co., 2110 N. 11th St., St. Louis; Shepard Elevator Co., 2413 Colerain Ave., Cincinnati, O.; Moffatt Machinery Manufacturing Co., Charlotte, N. C.; Haughton Elevator & Machine Co., Toledo, O.; Otis Elevator Co., 1822 Young St., Dallas, Tex.; Westbrook Elevator Manufacturing Co., Danville, Va.; Raymond Concrete Pile Co., 732 15th St., N. W., Washington; Jas. McHugh Sons, Inc., 840 W. 70th St., Chicago; Joe Williams Electric Co., 247 E. Pascagoula St., Jackson, Miss.; S. S. Jacobs Co., Hildebrandt Bldg., Jacksonville, Fla.; J. S. Harrison Construction Co., Waco, Tex.; Robinson Bros., Pine Bluff, Ark. 11-5

Miss., Jackson—State Hospital Removal, Improvement and Land Sale Comsn., New Capitol Bldg., opens bids Dec. 12 for elec. distribution system to dairy barns, mule barns and poultry farms, \$5,000,000 Mississippi Insane Hospital; plans from N. W. Overstreet, Archt., Standard Life Bldg., Jackson; Vinson B. Smith, Advisory Archt., Gulfport. 11-19

Miss., Philadelphia — Dept. of Interior, Bureau of Indian Affairs, Washington, have plans ready in about 2 weeks for 2-story nurses' home, Indian Reservation; \$13,000; to be placed on market by R. J. Enochs, Indian Reservation. 10-8

Tex., Galveston—Prospective estimators on 2 officers' quarters and recreation bldg., Marine Hospital, bids Nov. 27 by Treasury Dept., Jas. A. Wetmore, Act. Supv. Archt., Washington; Ring Construction Co., Wesley Temple Bldg.; Redlinger & Hansen Co., 827 Second Ave., S., both Minneapolis, Minn.; Fries & Son Steel Construction & Engineering Co., Second and Madison Sts., Covington, Ky.; Rheiner & Kroeger, Box 1451, San Antonio, Tex.; Wm. MacDonald Construction Co., Synd. Tr. Bldg., St. Louis, Mo.; Christy-Dolph Construction Co.; H. W. Underhill Construction Co.; Bellows-Macley Construction Co.; Nathan Wohlfeld, all Construction Bldg.; Thomas & Yarbrough, S. W. Life Bldg., all Dallas, Tex.; Robt. E. McKee, 1900 Texas St., El Paso, Tex.; Johnson Bros., Guaranty Bldg.; J. W. Zempfer, 1813 24th St.; M. C. Bowden, 18th and Mechanic Sts., all Galveston, Tex.; Noyes, Roach & Co., Morris Bldg., Joliet, Ill.; Redlinger & Hansen Co., 827 Second Ave. 11-19

Hotels and Apartments

La., Alexandria—Dr. Nicholas Norman started work on \$25,000 apartment, Jackson St.; rein. conc. and brick, 2 stories, 70x72 ft.,

conc. footing, asbestos roof, tile baths, hardwood floors, built-in features; Chas. T. Roberts, Archt., 513 Commercial Bk. Bldg.; Paul Ponthieux, Contr., 1408 Levin St.

Md., Baltimore—Northway Apartment Co., Irving C. Goldstein, Pres., plans Northway Apartments, Charles St. and Bishop's Rd.; 10 stories and pent house, 78 suites; Palmer & Lamdin, Archts., 513 N. Charles St.; Abell Building Co., Contr.; drawing plans.

Md., Baltimore—York Apartment Co., care Marion J. Nasco, Archt., 14 E. Lexington St., has low bid at \$116,170 from Globe Engineering Co., 2701 Lauretta Ave., for 6-story apartment, York Rd. section. 10-8

Tex., Laredo—Laredo Hotel Co. having plans drawn by John M. Marriott, Archt., Frost Natl. Bk. Bldg., to remodel interior and redecorate Robert E. Lee Hotel; \$30,000 to \$40,000. 10-29

Miscellaneous

Tex., Tyler—Women's Forum, care Mrs. Alex. Woldert, erect clubhouse; face and common brick, struc. clay tile, rein. conc., cast stone trim, 1 story, two 3-story wings, tile and wood floors, asbestos shingle roof, steam heat; Shirley Simons, Archt., 301 City Bk. Bldg.

Va., Richmond—Billups Funeral Parlor, 2500 E. Marshall St., opens bids Dec. 4 to alter and enlarge bldg.; Carl M. Lindner, Archt., State Planters Bk. Bldg.

Schools

Ark., Forrest City—City Bd. of Education plans negro school to replace burned structure; red brick, 10 classrooms and auditorium.

D. C., Washington—George Washington University, 2100 K Street, opens bids Dec. 15 for addition to Medical School and Hospital; brick and conc., fireproof, 4 stories, L shape, 93.6 ft., 40 ft. with 20-ft. L, 73.6 ft. and 20 ft., steel fenestra windows, conc. floors and foundation, slag roof; furnishings, equipment, etc., \$20,000; hospital clinical and doctors' clinical laboratories, bacteriology laboratory, 6 research laboratories, storage and record rooms; \$30,000; plans by C. E. Merry, Asst. to Comptroller, with Leo Raywid, Const. Engr.

Fla., Homestead—Dade County Bd. of Public Instruction opens bids Dec. 16 for \$16,000 auditorium, Redlands School near Homestead; conc. and steel, use steel frame of old Lemon City school; E. L. Robertson, Archt., Calumet Bldg., Miami.

Ga., Quitman—Dixie Consolidated School Dist. (Brooks County) voted \$20,000 improvement bonds.

La., Houma—Terrebonne Parish School Bd. opens bids Dec. 3 for elementary school for negroes; frame, 1 story, 150x60 ft., conc. foundation and steps, face and common brick, comp. roof, double finished wood floors, Celotex, sheet metal work; T. G. Chachere, Houma, and Theard & Matthews, Balter Bldg., New Orleans, architects. Prospective estimators: J. A. Haase, Jr., 916 Union St.; Reilly-Ruckstuhl, Inc., 423 Carondelet St.; Geo. A. Broas Construction Co., 4413 Elba St.; Herman T. Makofsky, 3034 Palmyra St.; T. A. Pittman, Inc., Canal Bank Bldg., all New Orleans; J. C. Ccbin, Napoleonville; C. D. Duplantis; Louis Chauvin; A. W. Sammonia; Edw. Domingue, all Houma; Richard Webre, Thibodaux.

Md., Odenton, Ferndale, Brooklyn Park—Anne Arundel County Public School Bldg. Comsn., Geo. Fox, Sec. Treas., Annapolis, having sketches drawn for 2-classroom, assembly room and cafeteria brick school, Odenton, for 4-classroom, 2-story hollow tile and stucco school, Ferndale, and for school at Brooklyn Park; Buckler & Fenhagen, Archts., 325 N. Charles St.; Wm. H. Emory, Jr., Asso. Archt., Balto. Trust Bldg., both Baltimore. 10-8

Md., Parkton—Baltimore County School Comsn., Towson, having sketches drawn by Smith & May, Archts., Balto. Trust Bldg., Baltimore, for 2-story brick school.

Md., Severna Park—Anne Arundel County Public School Bldg. Comsn., Annapolis, soon ready for bids for 6-room school, Severna Park; brick, 2 stories, 60x90 ft.; Buckler & Fenhagen, Archts., 325 N. Charles St.; Wm.

H. Emory, Jr., Asso. Archt., Balto. Trust Bldg., both Baltimore; drawing plans.

Md., Towson, Baltimore—Baltimore County School Comsn. having sketches drawn by Smith & May, Archts., Balto. Trust Bldg., Baltimore, for 2-story brick school for Dist. No. 5 at Black Rock; Huldreich Egli, Mech. Engr., 425 St. Paul Place.

N. C., Goldsboro—City Bd. of Education erect \$25,000 auditorium; brick, steel truss roof, 1 story and basement; Starrett & Van Vleck, Archts., 393 Seventh Ave., New York; bids in.

S. C., Beaufort—Bd. of School Trustees, J. A. Kinghorn, Chmn., opens bids Dec. 3 for school; brick, wood floors, comp. roof; Jas. B. Urquhart, Archt., Columbia. Following contractors estimating: Clarke & Clarke; Artley Co., 504 E. Bay St., both Savannah, Ga.; Dawson Engineering Co., Inc., 58 Gillon St.; Charleston Constructors, Inc., 58 Broad St., both Charleston, S. C.; Mechanics Contracting Co., Carolina Bank Bldg.; Sellers & Kahn; J. C. Heslep, Carolina Bank Bldg.; W. A. Cray & Son, 1226 Sumter St., all Columbia, S. C.

Tex., Longview — Longview Ind. School Dist. (Gregg County), have plans ready about Jan. 1 for \$175,000 senior high school; brick, struc. clay tile, struc. steel, rein. conc., stone, etc., 3 stories; sep. bids for mech. work; Mark Lemmon, Archt., 1910 Tower Petroleum Bldg., Dallas.

Tex., San Antonio—City School Bd. has low bid at \$36,481 from Gilbert Falbo for 6-room and cafeteria addition to Robert E. Lee School No. 30; plumbing and heating, Kirkwood & Wharton, 523 N. Flores St., at \$8000; elec. work, Ed Teng, 220 W. Commerce St., at \$810; Geo. Willis, Archt., Bldrs. Exch. Bldg.; L. D. Royer, Mech. Engr., Smith-Young Tower; Phelps & DeWees, School Archts., Gunter Bldg. 11-5

Va., Alexandria—City Council, Edmund F. Ticer, Mayor, and City School Bd. plan \$300,000 high school; furnishings, equipment, etc., \$61,000; 40 or more classrooms, auditorium, etc.

Stores

D. C., Washington—H. Berman, 901 N. Y. Ave., N. W., has permit for \$20,000 store, 1252 Fourth St., N. E.; brick, 2 stories.

Ga., Atlanta—J. G. Dodson, 70 Fairlie St., N. W., remodel bldg., 614 Peachtree St., N. E.; rein. conc., brick and tile, 3 stories; new front; interior changes; Hentz, Adler & Shutze, Archts., 1330 Candler Bldg.; preliminary plans.

Ga., Atlanta—Claude S. Bennett Co., 118 Alabama St., remodel bldg., 207 Peachtree St., N. E., for Peters Land Co., Peters Bldg., lessee; new front; work probably start in Jan.

Ga., Atlanta—Walgreen Drug Co., 744 Bowen Ave., Chicago, Ill., remodel bldg., 80 Whitehall St., S. W.; plate glass front, floors, fixtures.

La., New Orleans—Manale & Marcante leased bldg., 1013 Canal St.; remodel and install fixtures for department store.

La., New Orleans—G. A. Schwegmann, 901 Piety St., rejected bids for 1-story, 17x30-ft. brick store, 3214 Burgundy St.; ready for new bids in about 15 days; Sam Stone, Jr., & Co., Archts., Masonic Temple. 11-12

Md., Baltimore—A. H. Thomain, 24 W. 20th St., rejected bids for 3 brick stores, Maryland Ave. and 20th St.; call for new bids later; Chas. T. McClure, Archt., 3601 Windsor Mill Rd. 10-29

Miss., Jackson—Bette Furniture Co., John C. Batte, N. Farrish St., remodel second floor lately noted damaged by fire; replastering, roofing, plumbing, wiring; Hull & Malvaney, Archts., Merchants Bank Bldg. bids in. 11-12

Tenn., Memphis—Farrell-Calhoun Co., Inc., 50 S. Second St., remodel old Goodbar Bldg., 22-24 S. Second St. for offices and salesrooms; for paints, wallpaper, etc.; new front, elevators, furnishings and fixtures.

Warehouses

Va., Richmond—Chesapeake Storage Corp., 11th St. and Dinwiddie Ave., has permit for 2 tobacco storage sheds, Dinwiddie near 9th St., South Richmond; metal, steel and frame, \$20,000.

BUILDING CONTRACTS AWARDED

Bank and Office

Md., Baltimore—Maryland Trust Co., Calvert and Redwood Sts., let contract to Otis Elevator Co., 120 S. Paca St., Baltimore, for high-speed, signal control elevators; elevator

doors, Dahlstrom Metallic Door Co., Jamestown, N. Y.; elevator cars, W. S. Tyler Co., Superior Ave. and E. 36th St., Cleveland, O.; connection with remodeling work; Smith & May, Archts., Balto. Trust Bldg.; C. A. Osborne, Engr., 2222 W. Franklin St.; Oscar B.

Green, in charge of work for owner. 7-23
Tenn., Kingsport—American Gas and Electric Co., Carl Thornburg, Div. Engr., let contract to Fiske-Carter Construction Co., Masonic Temple Bldg., Greenville, S. C., for office bldg. for Kingsport Utilities, Inc., subsidiary; 2 stories and basement, brick, conc., struc. steel, cut stone trim, fireproof; auditorium; plans by Allen N. Dryden. 9-24

Churches

Mo., Kansas City—Southeast Presbyterian Church, W. S. Tuley, Chmn., Bldg. Comm., let contract for \$40,000 bldg., 36th St. and Indiana Ave., to J. H. Edelman; brick, cut stone trim, slate roof; Felt, Dunham & Kriehn, Archts., 300 W. 47th St.; later erect 2-story Sunday school wing. 8-20

Tex., Sherman—Forest Ave. Baptist Church started work on \$10,000 bldg.; J. C. Henderson, Contr.

City and County

Tex., Graham—North Texas Iron & Steel Co., 1401 N. Adams St., reported, has contract for 121 tons conc. bars for \$300,000 Young County court house; Withers & Thompson, Archts., 201 Holmes Bldg.; Jas. T. Taylor, Contr., all Fort Worth. 1-1

Tex., Wellington—A. M. McElwee & Co., 1415 Hemphill St., Fort Worth, have wood furnishings contract at \$10,329 for Collingsworth County court house; steel furnishings, Art Metal Construction Co., Inc., Republic Bk. Bldg., \$3970; window blinds, Bostwick-Goodell Venetian Blind Co., 1613 Bryan St., \$1075, both Dallas. 10-20

Dwellings

D. C., Washington—Federal Construction Co., 1001 15th St., N. W., has permit for 6 brick and conc. block dwellings, 5301-11 Fourth St., N. W.; 2 stories; total \$30,000; owner builds.

D. C., Washington—F. B. Mills, 44 Longfellow St., N. E., erect 3 brick dwellings, 1307-12 Allison St., N. E.; 2 stories, tin roofs, hot water heat; Geo. T. Santmyers, Archt., 925 15th St., N. W.; owner builds.

D. C., Washington—Max Simon, 3720 Nichols Ave., S. E., erect brick and cinder block apartment, 3300 block Nichols Ave., S. E.; 3 stories and basement, 65x77 ft., cast stone; R. C. Archer, Archt., 1759 U St.; work by sub-contract.

D. C., Washington—E. M. Willis, Tower Bldg., erect duplex, Evarts St., N. E., near Ninth St.; brick and cinder block, hollow tile, 2 stories, 18x38 ft.; Geo. T. Santmyers, Archt., 925 15th St.; owner builds.

D. C., Washington—Jas. W. Lee, 1349 F St., N. E., erect brick and rein. conc. residence, 1347 F; 2 stories, 16x47 ft., tin roof, tile bath, hardwood floors, hot water heat, Geo. T. Santmyers, Archt., 925 15th St., N. W.; work by sub-contract.

D. C., Washington—J. B. Tiffey, 419 Oglethorpe St., N. W., erect 5 brick dwellings, 5903-17 Seventh St.; 2 stories, slate roofs, hot water heat; total \$40,000; owner builds.

D. C., Washington—Lloyd L. Miller Co. erect \$15,000 brick and hollow tile residence, 33rd and Quesada Sts.; 2½ stories, tile baths, steel sash in basement, oak and linoleum floors, vapor heat; J. W. Kearney, Archt., 1417 K St., N. W.; Hugh Myers, Contr., 4201 Leland St., Chevy Chase, Md.

D. C., Washington—Saml. E. and Anna H. Masson, 2518 Q St., S. E., erect frame residence, 2522 Q; 1 story, 25x34 ft., Ruberoid shingle roof, hot water heat; S. E. Masson, Contr., 2518 Q.

D. C., Washington—L. E. Breuninger & Sons, Inc., excavating for \$13,000 dwelling, 1360 Kalmia Rd., N. W.; brick, 2 stories, 34x27 ft., hardwood, linoleum and tile floors, elec. refrigerators, plaster board, conc. foundation, slate hip roof; H. L. Breuninger, Archt.; owners build, all Investment Bldg.

Fla., Miami Beach—Miss Nellie Carlin, 756 Meridian Ave., let contract to J. C. Carroll, 2855 Royal Palm Ave., for 1-story bungalow, 910 Collins Ave.; 30x40 ft.; Henry J. Moloney, Archt., 802 Professional Bldg., Miami.

Fla., Quincy—I. Gardner, care Max Wedeles Tobacco Co., let contract to Albritton & Williams, Quincy, for hollow tile, brick and stucco residence, E. King St.; 2 stories, 82x42 ft., linoleum, tile and hardwood floors, conc. foundation, slate roof, cast stone, elec. refrigerators, interior tile, steel sash and trim, marble; Alvin Roger Moore, Archt., Centennial Bldg., Tallahassee. 9-17

Ga., Atlanta—John Pickett, 966 Westmont Drive, S. W., erect 1-story frame residence, same address; comp. roof, hot air heat; owner builds.

Ga., Atlanta—Mrs. Mary Baker Morgan, 1112 Briarcliff Place, N. E., erect brick veneer residence, 882 Barnett St., N. E.; 1 story, hardwood and tile floors, comp. roof, 6 rooms and bath, steam heat; owner builds.

Ga., Atlanta—H. Kuniansky, 1045 Washington St., S. W., erect brick veneer dwelling, 1149 Reeder Circle, N. E.; 1 story, hardwood and tile floors, 6 rooms and bath, comp. roof; 2 brick veneer dwellings, Callan Circle, N. E.; 1 story and basement, conc. foundation, hardwood and tile floors, comp. roof, hot air heat; and 1 brick veneer, 1-story residence at 455 Clair Drive, N. E.; owner builds.

Ga., Atlanta—E. A. Gilliam, 30 Rogers Ave., S. E., erect brick veneer residence, 101 Rocksprings Rd., N. E.; 1 story, hardwood and tile floors, 6 rooms and bath, steam heat; owner builds.

La., New Orleans—Wm. C. Osborne, Contr., 2231 Constance St., erect double dwelling, Ariss and Rose Sts., Metairie Ridge; asbestos roof, tile work.

La., New Orleans—Ruffin J. Walker, Contr., 2231 Cadiz St., erect dwelling, St. Ann and Marais Sts.

La., New Orleans—Wm. C. Osborne, Contr., 2231 Constance St., erect dwelling, Livingston Place, Metairie Ridge; tile, stucco, brick, orna. iron.

La., New Orleans—August Pausteri erect double residence, 4524 Eden St.; 23.6x81.6 ft., orna. iron.

Md., Baltimore—Roland Park Co., 4810 Roland Ave., erect dwelling and garage, 4127 West View Rd., Northwood; John A. Ahlers, Archt., 529 N. Charles St.; Roland Park-Montebello Corp., Contr., J. S. Downing, Vice-Pres.-Gen. Mgr., 2609 Greenmount Ave. 11-12

Md., Baltimore—John Pelikan, 415 N. Patterson Park Ave., erect 2 brick and stucco duplexes, 5002-14 Ardmore Way; 2 stories, 15x42 ft.; Jerry C. Dvorak, Contr., 531 N. Milton Ave.

Md., Baltimore—York Road Construction Co., Harry F. Shew, Jr., 3916 Woodhaven Ave., erect 5 dwellings, 508-16 Sheridan Ave.; brick, 2 stories, 18x31 ft., steam heat; \$11,500; Fredk. E. Beall, Archt., 334 St. Paul Place; owner builds.

Md., Baltimore—Clifton K. Wells, Bldr., 3537 Old York Rd., plans 2 dwellings, Padlington Rd., Homeland; brick or stone, 2 stories.

Md., Baltimore—Crown Realty Co., Chas. C. Krauss, 2913 Rosalie Ave., probably start work early in 1932 on 1-story brick dwelling, Eastern Pkwy.; owner builds.

Md., Woodlawn, Baltimore—Harry Stein, Johnny cake Road, completed plans for brick residence; 2 stories, 29x35 ft.; owner builds.

Mo., St. Louis—Morris F. Slupsky, R. No. 2 Box 911, Clayton, erect 2 brick dwellings, 4627-29 Kossuth St.; 2 stories, 23x43 ft., comp. shingle roofs, hot water heat; total \$10,000; plans and constr. by owner.

Mo., St. Louis—M. M. Hendler, 7230 Pershing St., erect 2 brick dwellings, 7342-58 Dartmouth St.; 2 stories, 28x65 ft., stone foundation, tile roof, hot water heat; total \$14,000; E. B. Kelly, Archt., University Bk. Bldg.; owner builds.

N. C., Albemarle—D. A. Holbrooks erect residence, Pee Dee Ave.; material on ground.

Tex., Dallas—Crabtree & McQueen, 3200 McKinney St., started work on duplex, 4300 block Normandy Ave.; Spanish-Italian type, brick veneer, 2 stories; also have English type duplex under constr.

Tex., Houston—Jas. A. Roberts, Contr., Bankers Mortgage Bldg., has permit for \$10,000 residence, 2016 Rosedale St., Riverside; brick veneer, 2 stories.

Va., Richmond—Bradford H. Walker, Tenth and Capitol Sts., let contract to Claiborne & Taylor, Inc., Broad Grace Arcade Bldg., for residence, Windsor Farms; brick, granite and limestone, 2 stories, struc. steel, steel sash, tile partitions, marble, tile work, orna. iron, slate roof; Carrier-Lyle heating; Henry G. Morse, Archt., Essex Falls, N. J. 11-12

Government and State

Ark., North Little Rock, Little Rock—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, let contract at \$69,540 to McGregor & Pickett, Gem Bldg., Little Rock, for post office; models, Lombard & Ludwig, Inc., 309 14th St., N. W., Washington. 11-12

D. C., Washington—Architect of the Capitol, David Lynn, let contract at \$8,333,000 to George A. Fuller Co., Munsey Bldg., for superstructure for U. S. Supreme Court Bldg., E. Capitol St., Maryland Ave., First and Second Sts.; Corinthian type, 385x304 ft., central section 4 stories, west front 3 stories and remaining sections lower; fireproof, stone, brick; Supreme Court room

94 ft. square, about 30 ft. high; inclined driveway from basement, elevators, ventilation system, public and private corridors, law libraries on second and third floors; Cass Gilbert, Archt., 244 Madison Ave., New York. 10-29

Fla., Jacksonville—Otis Elevator Co., 810 18th St., N. W., Washington, has elevator contract at \$19,700 for \$600,000 parcel post bldg.; excavation, Walter J. Bryson Co., Jacksonville; 600 tons fabricated struc. steel, American Bridge Co., 71 Broadway, New York; James I. Barnes, Contr., Logansport, Ind. 10-29

Fla., Miami—Following sub-contracts let on superstructure of \$2,080,000 post office, court house, custom house, etc.; Struc. steel, McClintic-Marshall Co., Pittsburgh, Pa.; vault lights, Detroit Brown Vault Light Co., Detroit, Mich.; orna. aluminum, J. S. Heath Co., Waukegan, Ill.; aluminum windows, Campbell Metal Window Corp., 1 Pershing Square, New York; fire hose cabinets, Art Metal Construction Co., Jamestown, N. Y.; metal partitions, David Lupton's Sons Co., 2263 E. Allegheny Ave., Philadelphia, Pa.; interior marble, Gray-Knox Marble Co., 228 North LaSalle Street; interior tile, cork carpet, cement finish and floor hardener, Eastholm-Melvin Co., 844 Rush St.; acoustical treatment, mastic, comp. and asphaltic and rubber tile flooring, Thomas Moulding Floor Co., 165 W. Wacker Drive, both Chicago, Ill.; glass and glazing, Auburn Glass Co., Indianapolis, Ind.; Ralph Sollitt & Sons Construction Co., Contr., 1363 Bldrs. Bldg., 228 N. LaSalle St., Chicago, Ill.; Phineas E. Paist & Harold D. Stewart, Archts.; L. Murray Dixon, Asso. Archt., all Ingraham Bldg., Miami, and Ponce de Leon Entrance Bldg., Coral Gables, Fla.; Maurice H. Connell, Mech. Engr., McAllister Hotel Bldg., Miami; Harvey Baxter, Struc. Engr., 518 Harding St., P. O. Box 65, Coconut Grove, Miami. 10-15

Ga., Fort Valley—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, let contract at \$38,990 to E. M. Williams Lumber Co., Monroe, Ga., for post office. 11-5

Miss., Aberdeen—Treasury Dept., Jas. A. Wetmore, Act. Supvg. Archt., Washington, let contract at \$73,960 to Algernon Blair, First Natl. Bk. Bldg., Montgomery, Ala., for brick post office and court house. 11-12

N. C., Greensboro—Otis Elevator Co., 810 18th St., N. W., Washington, has elevator contract at \$23,613 for \$600,000 post office, court house, etc.; Geo. H. Rommel Co., Contr., 958 Logan St., Louisville, Ky. 11-12

Tex., Fort Worth—Additional sub-contracts let on \$1,240,000 post office: Brick, Acme Brick Co., N. P. Anderson Bldg., and Harris Brick Co., Reynolds Bldg.; orna. iron, Anderson Iron Works; millwork, Ingram & Co., W. T. Waggoner Bldg.; form work, Elmer Sigler Co., all Fort Worth; mail handling equipment, Alvey Ferguson Co., 228 N. LaSalle St.; rolling steel doors, W. S. Harvey Sales Co., 740 Rush St.; wire mesh, Consolidated Expanded Metal Co., 2531 Arthington St.; waterproofing, Imperial Waterproofing Co., 228 N. LaSalle St.; ventilating, Independent Air Filter, 29 S. Clinton St.; plastering, Tobin Plastering Co., 6415 Ravenswood Ave.; steel windows, Truscon Steel Co., 201 N. Wells St., all Chicago, Ill.; sky-lights, American Bar-Lock Co., 3728 30th St., Long Island City, N. Y.; plumbing and heating, Farwell Plumb. & Heat Co., 322 Oak Lane, Dallas, Tex.; marble, Gray Knox Marble Co., Southerland Ave., Knoxville, Tenn.; revolving doors, Newman Mfg. Co., Cleaneay St., Cincinnati, O.; hollow metal doors, Niedringhaus, Inc., 3739 Natural Bridge St., St. Louis, Mo.; cut stone, Texas Quarries, Inc., Scarbrough Bldg., Austin, Tex.; hardware, Russell & Erwin, New Britain, Conn.; Wyatt C. Hedrick, Inc., Archt., First Natl. Bk. Bldg., Fort Worth; Ralph Sollitt & Sons Construction Co., 1353 Builders Bldg., 228 N. LaSalle St., Chicago, Ill. 8-13

Hospitals, Sanitariums, Etc.

Ark., North Little Rock, Little Rock—Capitol Steel Co., reported, has contract for 144 tons conc. bars for \$200,000 clinical bldg., U. S. Veterans Hospital; elevator, Kimball Bros. Co., Council Bluffs, Iowa, at \$5,048; Wm. Peterson, Contr., 1121 Donaghey Bldg., both Little Rock. 11-6

Ga., Atlanta—City let contract to Barge-Thompson Co., 136 Ellis St., N. E., for interior changes, Grady Hospital.

N. C., Oteen—Following sub-contracts let on Veterans' Administration Hospital bldgs. and utilities, for which Henry B. Ryan Co., 510 N. Dearborn St., Chicago, Ill., have contract at \$538,000: Engineering service and surveying, Brown Engineers & Surveyors, 39 E. College St.; shovel excavations and grading, Stevens, Inc., both Asheville, N. C.; rein. steel and metal forms, Southern

G-F Co., 263 Decatur St., S. E., Atlanta, Ga.; elec. work and fixtures, Warner Service Co., 102 W. Clinch St., Knoxville, Tenn. 11-12

S. C., Columbia—State Hospital let contract to C. M. Guest & Son, Anderson, for ward bldg.; brick, tile, rein. conc., steel joist, 1 story, 136x80 ft. Tile-Tex over conc. floors, standing seam tin roof, conc. foundation, cast stone, steel sash and trim, steam heat; Lafaye & Lafaye, Archts., 1224 Sumter St., Columbia. 11-12

Tenn., Nashville—Dr. E. A. Sayers, Bennie-Dillon Bldg., and associates let contract to Summer Construction Co., for \$15,000 clinic, Seventh Ave., N., near Church St.; stone; X-ray and operating rooms, beds, etc. 10-29

Tenn., Nashville—State, Richard H. Lyle, Commr. of Institutions, let contract at \$28,870 to Foster & Creighton, Amer. Natl. Bk. Bldg., for administration bldg., Hospital for Criminal Insane, near Central State Hospital; brick, 2 stories and basement, 35x48 ft., conc. foundation, comp. roof; Marr & Holman, Archts., Stahlman Bldg. 11-10

Tex., Rusk—State Board of Control, Austin, let contract at \$22,329 to Snodgrass & Snodgrass, Abilene, for employees' dormitory, State Hospital; plumbing and heating, J. C. Korloth Plumbing & Heating Co., Sherman, at \$4500; brick, struc. clay tile and rein. conc., 2 stories; Wyatt C. Hedrick, Inc., Archt., First Natl. Bk. Bldg., Fort Worth. 10-29

Tex., Sanatorium—State Bd. of Control, Austin, let contract at \$66,750 to Bailey, Burns & Fitzpatrick, Mercantile Bk. Bldg., Dallas, for dormitory, State Tuberculosis Sanatorium; plumbing and heating, Vickers Plumbing & Heating Co., Sweetwater, at \$13,490; wiring, A. P. Kasch, San Antonio, at \$4500; refrigeration, Martin Wright Electric Co., 1001 Navarro St., San Antonio, at \$2608; brick, struc. clay tile, struc. steel and rein. conc., 2 stories; Peters, Strange & Bradshaw, Archts., Big Spring. 10-29

Va., Richmond—Johnson-Longworth Heating Co., 416 E. Main St., have heating contract at \$6022 for \$70,000 infirmary and administration bldg., Pine Camp Sanatorium, for City; elec. equipment, A. L. Bear, 809 W. Broad St., \$5850; elevator, Westbrook Elevator Mfg. Co., Inc., at \$1641; Carneal, Johnston & Wright, Archts., Elec. Bldg.; John T. Wilson Co., Inc., Contr., Mutual Bldg. 10-15

Hotels and Apartments

Fla., Sebring—Hygema & Allyn plan frame hotel; 2 stories, 90x40 ft., wood joist and roof truss, built-up roof; work by sub-contract.

Md., Baltimore—Erhardt & May have excavation contract for 10-story apartment, Charles and 33rd Sts., for Charles and Thirtieth Sts., Inc.; Fredk. A. Fletcher, Archt., 517 N. Charles; Kubitz & Koenig, Struc. Engrs., Emerson Tower; J. Hamilton Walker, Mech. Engr., 100 E. Pleasant St.; Gunn, Williamson & Guy, Contrs., 306 N. Charles St. 10-8

Mo., St. Louis—E. J. Peterson, 7011A Amherst St., erect \$10,000 tenement, 5069-71 Permod St.; brick, 2 stories, 33x55 ft., comp. shingle roof, hot air heat; owner builds.

Tenn., Nashville—Clarkson Hotel, Seventh Ave., erect addition; Dougherty, Wallace & Clemmons, Archts., Cotton States Bldg.; Cowan Lumber Co., Contr.

Miscellaneous

Fla., Coral Gables, Miami—Additional sub-contracts let on \$500,000 Gables Racing Assn. project: Lumber for clubhouse, Drake Lumber Yards, Inc., 1800 Miami Ave.; Bailey's Lumber Yard, 1616 N. W. 29th St., and Renault Lumber Co.; misc. iron, Hyne Egger; railroad rails and cross ties, L. A. Ybanez & Co.; tile, East Coast Tile Co., 100 N. E. 24th St.; roofing, McCrea-Miller Co., 632 S. W. Eighth St.; weatherstripping and caulking, Chamberlain Metal Weatherstrip Co., Inc., 37 N. E. Fifth Ave.; cast stone, Quarry Keystone; lathing and plastering, E. E. Baker, Inc., 2236 N. W. Miami Court; Belsham, Jorgensen & Schreffler, Struc. Engrs., Calumet Bldg.; Maurice Connell, Mech. Engr., 3675 S. W. 25th Terrace; Paist & Stewart, Archts., Ingraham Bldg. 11-12

Fla., Miami Beach—Albert Bouche remodel and enlarge Villa Venice Supper Club, 14th St. and ocean; Geo. Bruce, Archt., 518 Security Bldg., Miami; Fred Howland, 1600 N. W. 14th St., Miami, contract at about \$10,000.

Railways Stations, Sheds, Etc.

La., New Orleans—Southern Railway System, A. A. Woods, Ch. Engr., M. W. & S., Lines West, 509 Sou. Ry. Bldg., Cincinnati,

O., let contract to O. M. Gwin Construction Co., 3503 Fern St., New Orleans, for alterations to freight office bldg. of New Orleans Terminal Co., St. Louis and Basin Sts.; carpentry, windows, doors, stairways, plumbing, heating, wiring, etc.

Schools

Ala., Autaugaville—State Dept. of Education let contract to C. A. Cosby, Selma, for \$30,000 high school; 1 story and basement, 10 rooms and auditorium, conc. foundation, comp. roof; plans by Mr. Dittmar, care owner; W. H. McDaniel, County Supt. of Education, Prattville. 10-15

La., Kentwood—Tangipahoa Parish School Bd., Amite, let contract at \$80,836 to W. E. Rubush, Kentwood, for senior high school; plumbing and heating, Claude Wilkinson, 339 Raymond Bldg., Baton Rouge; brick, 2 stories and basement, wood floors, built-up comp. and tile roof, cast stone, metal doors, rein. conc. foundation, steel and iron work, blackboards; Favrot & Livaudais, Ltd., Archts., Nola Bldg., New Orleans. 11-12

Md., Annapolis—Navy Dept., Bureau of Yards and Docks, Washington, let contract at \$10,863 to Pasquale Construction Co., Inc., 91 William St., Boston, Mass., for alterations and additions to quarters, Naval Experiment Station. 11-19

N. C., High Point—Myrtle Desk Co. has library equipment contract for Junior High School; home economics room chairs, Blue Ridge Hickory Furn. Co., High Point; lockers, Medart Co., and manual arts equipment, Kawannee Co., both through J. A. Stall, representative; auditorium seats, Carolina School Supply Co., 1023 W. Morehead St., Charlotte; sidewalks, J. D. Bacon, 1101 Lindsay St., High Point.

Tex., Galveston—Black Hardware Co., 2217 B St., Galveston, reported, has contract for 225 tons conc. bars for \$300,000 to \$350,000 junior high school; 120 tons struc. steel shapes for gymnasium, reported, let to Houston Structural Steel Co., 3910 Washington St., Houston, Tex.; 22 tons bar joints to Concrete Engineering Co., Omaha, Neb.; Giesecke & Harris, Archts., Norwood Bldg., Austin; R. R. Rapp, Asso. Archt., Guaranty Bldg., Galveston; L. D. Royer, Mech. Engr., Smith, Young Tower, San Antonio; M. C. Bowden, Contr., 1801 C St., Galveston. 10-22

Stores

D. C., Washington—H. Berman, 426 12th St., S. W., erect \$20,000 store, 1252 Fourth St., N. E.; brick, 2 stories, slag roof, hot water heat; Chas. H. Tompkins Co., Contr., 1608 K St., N. W.

Ga., Atlanta—Eugene V. Haynes, Candler Bldg., remodel 2-story bldg., W. Peachtree St. and North Ave.; brick, comp. roof; A. F. N. Everett, Archt., 161 Spring St., N. W.; owner builds.

La., Shreveport—Martin & Wiener plan \$25,000 to \$30,000 commercial center, Youree Drive; brick, 1 story; 7 stores; Jones, Roessle, Olschner & Wiener, Archts., Ardis Bldg.; day labor.

La., Shreveport—L. P. Woods Groceteria, 600 Jordan St., erect bldg., Louisiana Ave. near Egan St.; Jones, Roessle, Olschner & Wiener, Archts., Ardis Bldg.; bids in.

N. C., Hickory—W. T. Grant Co., 1441 Broadway, New York, leased bldgs., Union Sq., from Carl Cline; to be remodeled for store.

Tenn., Nashville—Boone Contracting Co., Ind. Bldg., has contract to remodel Firestone store, Fifth Ave.; Tisdale & Pinson, Archts., Ind. Life Bldg.

Tex., Dallas—E. A. Fretz, 6639 Avalon St., remodeling business bldg., 401-03 N. Akard St.; \$10,000; J. A. Pitzinger, Archt., S. W. Life Bldg.; Rogers & O'Rourke, Contrs., Construction Bldg.

Tex., Dallas—Summerfield Rogers remodeling store front, 1417 Commerce St.; S. J. Buckalew, Contr., Burt Bldg.

Theatres

Ga., Atlanta—J. A. Rebb, 516 Boulevard S. E., let contract to J. F. Higdon, 1135 University Drive, N. E., for theater, 635 Fair St., S. E.; brick and stone, conc. foundation, wood truss, struc. steel, comp. roof; Marye, Vinour, Marye & Armistead, Archts., Walton Bldg. 11-12

Md., Baltimore—Sound Amusement Corp., care Wilson P. Smith, Archt., Amer. Bldg., remodel theater, 614-18 Gilmore St.; work may start during winter.

Warehouses

Md., Baltimore—American Stores Co., A. D. Kistner, 424 N. 19th St., Philadelphia, Pa., let contract to Turner Construction Co.,

Architects Bldg., Philadelphia, for conc. skeleton of \$130,000 warehouse, 2120 W. Lanvale St.; fireproof, 2 stories and basement; foundation to permit 3 additional stories. 10-29

N. C., Charlotte—Piedmont & Northern Ry. Co. let contract at about \$35,000 to J. A. Jones Construction Co., Commercial Bank Bldg., for warehouse, W. Morehead St., for Great Atlantic & Pacific Tea Co., S. Cedar St.; rein. conc., brick, 2 stories, comp. roof; plans by David Nabow, Engr., care Duke Power Co. 11-12

Trade Literature

Oil Burners.—A 32-page catalog of the Enterprise Oil Burner Co., San Francisco, features improved types of the product. Illustrations and details of the various burners are presented, together with data on fuel consumption and heating statistics. A new unit, known as AAA, is adaptable to types of heating where limited combustion is required. Descriptions are included of burners for application in power plants where boilers are used and in all types of industrial buildings, office buildings, homes and in marine service. A number of accessories are also described.

Stationary Diesel Engines.—Bulletin No. 120 issued by the Superior Engine Co., Springfield, Ohio, features "Superior" stationary Diesel engines. These are of the four-cycle, cold-starting, mechanical type, built with two to eight cylinders in sizes from 35 to 350 horsepower and speeded from 600 r.p.m. for Type VDM to 700 r.p.m. for Type VDH. Features embodied in the design give quick acceleration with governor control from 100 to 700 r.p.m. The average compression pressure is 400 pounds per square inch; firing pressure approximates 600 pounds at full rated load and speed. The engines are entirely enclosed. Starting is effected by compressed air at pressures from 150 to 250 pounds. Mechanical fuel injection, fuel oil filter, force feed dry sump type lubrication, nickel-copper-aluminum alloy pistons, separate cylinder heads, machined and boxed cylinder liners are among the many other features of this particular type of engine.

Carbofrax.—A booklet on this Carborundum brand of silicon carbon refractory for boiler furnace construction has been issued by the Carborundum Co., Perth Amboy, N. J. Carbofrax, according to the booklet, withstands temperatures up to a chemical dissociation point of 4000 degrees F., has an average modulus of rupture approximating 900 pounds per square inch at 1350 degrees C., and a crushing strength at this latter temperature in excess of 10,000 pounds per square inch. In standard spalling tests, Carbofrax shows no loss after 100 coolings and it resists mechanical and flame abrasion.

Domestic Service Equipment.—The use of monel metal in kitchens, pantries and laundries is outlined in an attractive booklet, "Modern Domestic Service Equipment," issued by the International Nickel Co., Inc., New York. Custom construction of mechanical dishwashers, sinks, dishwarmers, food preparation machinery, cabinets, range hoods and fountains are illustrated. The detail of the finish hardware is also shown, as well as a standard line of monel metal kitchen sinks.

(Continued on page 44)

WANT SECTION

THE CLASSIFICATIONS IN THIS SECTION ARE:

Machinery and Supplies	Building Materials and Equipment	Bids Asked
Under this heading are reported requests for data, prices and literature and information on machinery, supplies and miscellaneous materials of a wide variety.	This division comprises all classes and kinds of materials and equipment used in building and construction projects of every kind.	Includes bids asked by U. S. Government, States, districts, municipalities, firms and individuals for machinery, materials, supplies and construction work.
<i>Items in this department are published without charge and these columns are open for the publication of wants of all kinds relating to construction work, machinery, materials and supplies.</i>		

Machinery and Supplies

Belt-sanding Machine.—Samford Bros., Inc. (Gen. Contrs.), 301 Washington Ave., Montgomery, Ala.—Wants prices and data on electrically driven, ballbearing belt sanding machine.

Dragline Machine.—J. R. Christian Co., 603-605-607 West Bldg., Houston, Tex.—Wants prices and data on dragline machine with 4-yd. bucket and 125-ft. boom and Diesel or electric power.

Drilling Rig.—Stryals Oil Corp., P. O. Box 14, Refugio, Tex.—Wants small gasoline drilling rig capable of drilling 1500 ft.

Engine (Diesel).—G. M. Davis & Son, Palatka, Fla.—Want prices and data on Diesel oil engine, direct connected to 33 to 40-kw. generator, 3 phase, 60 cycle, 240 volt; will consider used outfit.

Engine (Diesel).—Herfurth Engine & Machinery Corp., Duke, Strand and Union Sts., Alexandria, Va.—Wants prices and data on 100 to 150-h.p., used Diesel engine, full details and price in first letter.

Engines (Steam).—P. O. West, 1144 12th Pl., North, Birmingham, Ala.—Wants prices and data on high speed automatic steam engines and direct connected a. c. generators, 300 kv-a., 3 phase, 60 cycle, 550 or 2300 volts, complete with exciters and switchboard.

Generator.—See Engine (Diesel).

Turbines and Pumps.—C. J. Benson, 18½ E. Main St., Shawnee, Okla.—Wants prices and data on turbine wheels and pumps, for use in irrigation project.

Lock Corner Machine.—B. L. Johnson, Roaring River, N. C.—Wants prices and data on Morgan camera lock corner machine; single end, to take stock not less than 10 in. wide, used, good condition.

Laundry Equipment.—Norwood Wilson (Mchv. Dealer), Hopewell, Va.—Wants prices and data on new or used laundry equipment, suitable for 30-bed hospital.

Marine Engine.—Elder Construction Co., 4712 Jack St., Houston, Tex.—Wants Gray marine engine.

Lookout Mountain Wood Novelty Co., Inc., East Chattanooga, Tenn.—Wants prices and data on following:

- (1) **Lathe**—Mattison, rebuilt
- (2) **Sander**—Nash.

Miscellaneous

Concrete Pipe Forms.—R. G. Foster, Inc. (Contrs. and Engrs.), Box 158, Gordon, Ga.—Want prices and data on forms for manufacturing latest specification concrete drainage pipe, sizes 12 to 48 in.

Corks (Jar).—Lookout Mountain Wood Novelty Co., Inc., East Chattanooga, Tenn.—Wants prices and data on jar corks, 3-in. top diam., ½ in. thick, 2½-in. bottom diam.

Generators.—See Engines (Steam).

Gyratory Crusher.—See Jaw Crushers.

Jaw Crusher.—E. Kraushaar, 1740 S. Avondale St., West Philadelphia, Pa.—Wants following for new quarry operation: Jaw crusher, approx. 40x42, and another 18x36 or 24x36, or similar capacity in large gyratory crusher.

Sanitary Table Tops.—Charles B. Flagle, 808 Venable Ave., Baltimore, Md.—Wants prices and data on Opalite or equal for table tops.

Hardware.—State Highway Comsn., W. Z. Betts, Pur. Agt., Raleigh, N. C.—Wants prices and data on hardware for 75 and 100-man camps being constructed by commission.

Building Material and Equipment

State Highway Comsn., W. Z. Betts, Pur. Agt., Raleigh, N. C. wants prices on following for 75 and 100-man camps:

Sheet Metal.

J. V. & R. T. Burkes, Inc., 1112 Amer. Bk. Bldg., New Orleans, La., estimating on

bdgs. and utilities, Veterans Administration Home, Biloxi, Miss., bids Dec. 8, and want quotations by Dec. 6 on following:

Building Materials
Hollow Cement Blocks
Brick
Cut Stone
Structural Slate
Tile Work
Steel Sash
Steel Shelving
Steel Partitions
Metal and Built-up Roof
Screens
Painting
Concrete Piling
Hollow Tile
Reinforcing Steel
Cast Stone
Marble
Terrazzo
Linoleum Floors
Flag Pole
Steel Sails
Steel Cabinets
Tile Roof
Plastering
Millwork
Glass and Glazing.

Rev. R. Carl Maxwell, Pastor, Luray M. E. Church, South, Luray, Va., wants prices on following for church:

Flooring—hardwood, Battleship linoleum
Roofing—asbestos shingle
Pianos
Announcement Boards
Light Fixtures
Pipe Organ
Pews
Memorial Windows
Pulpit Furniture
Brick.

Nueces Furniture Co., Inc., 317 Chapperal St., wants prices on following:

Elevators
Flooring—hardwood, composition
Plaster Board
Roofing—asphalt.

Bids Asked

Automobile.—State Road Dept., Robert W. Bentley, Chmn., Tallahassee, Fla.—Bids Dec. 7 for 5-passenger club or town sedan, current model, short couple not less than 134-in. wheel base, 6 wire wheels, full equipment, including trunk, engine to be 8 cylinder, either straight eight or V-eight.

Bridges.—State of Texas, 5 bridges. See Construction News—Bridges, Culverts and Viaducts.

Bridges.—State of Missouri, 68 bridges. See Construction News—Roads, Streets and Paving.

Bridges.—State of Florida, 6 bridges. See Construction News—Bridges, Culverts and Viaducts.

Bridges.—State of Maryland, 4 bridges.

Building Repairs, etc.—Custodian, U. S. Post Office, Columbia, S. C.—Bids Dec. 3 for repairs, painting, etc.

Building Repairs.—Utilities Division, Q. M., Office of Q. M., Langley Field, Va.—Bids Dec. 15 for reconstruction and repair of machine shop No. 95, damaged by fire; installation of additional steam heating radiation in balloon hangar No. 82 and construction heating plant; work on building 95 includes removing damaged roof sheets, flashings, ventilators, etc., steel trusses and steel work and replacing with sound materials; repairing outside tile and stucco walls, replacing steel windows, constructing steel framework on bottom chords of trusses and applying metal lath and plaster; plastering all inside walls, repairing and replacing wood trimmings and doors and providing additional doorways, repairing plumbing fixtures and plumbing in lavatory; installing direct steam heating radiation and steam lines for entire building; installing electric fixtures and wiring and painting all interior walls and ceilings; roof sheets, steel windows, window glass, roof trusses and roof steel furnished by Government; construction of heating plant includes

erecting 1 story brick building, 19x31 ft., with waterproof conc. foundation wall and floor; furnishing and installing steam heating boiler and smokestack; installing steam water heating tanks and connecting steam lines and return lines from buildings 83 and 95 to heating boiler; steel trusses for roof and roof sheets furnished by Govt.

Castings.—Bd. of Engineering Equipment, Ft. Humphreys, Va.—Bids Dec. 2 for phosphor bronze castings and manganese castings.

Cement.—State Highway Dept., Ben M. Sawyer, Ch. Highway Commr., Columbia, S. C.—Bids Dec. 1 for all Portland cement to be purchased by department for work executed by or under direction of department during period Jan. 1, 1932, to Dec. 31, 1932.

Clearing.—Supvg. Archt., Treasury Dept., Washington, D. C.—Bids Dec. 3 for clearing squares Nos. 257 and 258.

Clearing Site.—Supvg. Archt., Treasury Dept., Washington, D. C.—Bids Dec. 2 for clearing portion of site of U. S. government printing office.

Copper.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 4 for 552 lin. ft. coupler, delivery Quantico, Va.

Dredging Sleeves.—U. S. Engr. Office, Norfolk, Va.—Bids Dec. 2 for 24 rubber dredging sleeves, 32½ in. i. d., 40 in. length, and 24 of same, 30 in. long.

Electric Distribution System.—War Dept., Construction Service, Q. M. C., Office of Constructing Q. M., Langley Field, Va.—Bids Dec. 8 for constructing electric distributing system for 20 double non-commissioned officer's quarters, service club and barracks No. 1.

Electric Fixtures.—See Building Repairs.

Electric Plant and Distribution System.—City of Starksville, Miss., T. J. Gladney, Clk.—Bids up until noon Dec. 11 for complete construction of electric light plant and distribution system for city; all materials to be furnished.

Fans.—Chemical Warfare Service, Edgewood Arsenal, Md.—Bids Dec. 1 for 2 exhaust fans.

Forgings.—Chemical Warfare Service, Edgewood Arsenal, Md.—Bids Dec. 2 for 1050 shell forgings.

Furniture.—Dist. Commrs., Dist. Bldg., Washington, D. C.—Bids Dec. 2 for 10 wall case, 2 mirrors, 2 fitting stands, 4 cutting tables, 16 domestic science tables, monel metal tops, 2 wood top tables and monel metal top domestic science table for home economics, Public Schools.

Gravel.—Ben M. Sawyer, Ch. Highway Commr., Columbia, S. C.—Bids Nov. 30 for approx. 2650 tons gravel f. o. b. Asheboro, S. C.

Gymnasium Equipment.—Dist. Commrs., Dist. Bldg., Washington, D. C.—Bids Dec. 4 for 20 basket ball backstops, 20 balance boards, 5 Indian club cabinets, 125 pr. Indian clubs, 30 gymnasium mat covers, 10 pr. wall hangers, 30 gymnasium mats, 5 pr. jumping standards and 5 pr. volley ball stands, Public Schools.

Hacksaw Blades.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Dec. 1 for tungsten hacksaw blades.

Hammers, Sledges, Vices.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Dec. 15 for vices; hammers and sledges.

Heating Plant.—See Building Repairs.

House Moving, etc.—Office Div. Engr., State Highway Dept., Orangeburg, S. C.—Bids Dec. 2 for moving houses and other structures of right-of-way of Route 64, Proj. 32, Barnwell County, 8 structures, 4 gas pumps and tanks, 2900 lin. ft. fencing; plans also with F. B. Giles, Res. Engr., Barnwell, S. C.

Lathe.—See Woodworking Machinery, etc.

Lawn Mower.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 3 for horse drawn lawn mower, delivery Quantico, Va.

Constructive Auditing

An independent audit is to be regarded always as the means to valuable advice from the auditor or auditing firm.

Too often, auditing service ends with the report of the financial condition of (name) as of (date).

Auditors should be equipped—and should be employed—to offer recommendations in connection with method, policies, financing, etc.; to furnish comparative statistics intelligently prepared; to point out how mistakes and waste may be eliminated, and pitfalls avoided.

Of course, *every audit should be a Detailed Audit*. But whether it be *Detailed*, *Semi-Detailed* or *Balance Sheet*, it can *and should be made to*, serve as the basis, not only of the financial report, but also for constructive help.

With the business man's appreciative understanding of this help, and the cooperation of progressive Public Accountants, Auditing becomes *Constructive* and offers its greatest value.

ERNST & ERNST

ACCOUNTANTS AND AUDITORS
SYSTEM SERVICE

AKRON
ATLANTA
BALTIMORE
BIRMINGHAM
BOSTON
BUFFALO
CANTON
CHICAGO
CINCINNATI
CLEVELAND
COLUMBUS

DALLAS
DAVENPORT
DAYTON
DENVER
DETROIT
ERIE
FORT WAYNE
FORT WORTH
GRAND RAPIDS
HARTFORD
HUNTINGTON,
W. VA.

HOUSTON
INDIANAPOLIS
JACKSON, MISS.
KALAMAZOO
KANSAS CITY
LOS ANGELES
LOUISVILLE
MEMPHIS
MIAMI
MILWAUKEE
MINNEAPOLIS

NEW ORLEANS
NEW YORK
OMAHA
PHILADELPHIA
PITTSBURGH
PORTLAND, ME.
PROVIDENCE
READING
RICHMOND
ROCHESTER
ST. LOUIS

ST. PAUL
SAN ANTONIO
SAN FRANCISCO
SEATTLE
TAMPA
TOLEDO
TULSA
WASHINGTON
WHEELING
WINSTON-SALEM
YOUNGSTOWN

Lawn Mower.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 3 for horse mower, horse drawn, walking type, delivery Sewall's Point, Va.

Lumber.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 2 for lumber, delivery Quantico, Va.

Lumber (Box and Crate).—Bureau of Supplies and Accounts, Navy Bldg., Washington, D. C.—Bids Dec. 8 for box and crate lumber.

Motor Boats.—U. S. Engr. Office, Vicksburg, Miss.—Bids Dec. 2 for 3 31-ft. steel hull motor boats.

Oak Timber.—U. S. Engr. Office, Huntington, W. Va.—Bids Dec. 7 for oak timber, for U. S. Lock 17, Ohio River, Marietta, Ohio.

Oil.—Panama Canal, Gen. Pur. Officer, Washington, D. C.—Bids Dec. 8 for Diesel oil, Sch. 2703.

Plumbing Supplies.—Marine Corps, Q. M. Dept., Washington, D. C.—Bids Dec. 2 for plumbing supplies, delivery Quantico, Va.

Roads.—State of Missouri, 29 roads. See Construction News—Roads, Streets and Paving.

Road Materials.—State Road Dept., Robert W. Bentley, Chmn., Tallahassee, Fla.—Bids Dec. 7 for liquid asphalt for sand asphalt base and surface course construction and T-C-1 prime.

Road.—South Carolina. See Construction News—Roads, Streets and Paving.

Road.—Clayton, St. Louis, Mo. See Construction News—Roads, Streets and Paving.

Roads.—State of Texas, 26 roads. See Construction News—Roads, Streets and Paving.

Saws.—See Woodworking Machinery, etc.

Screwdrivers, Torches.—Bureau of Supplies and Accounts, Navy Dept., Washington, D. C.—Bids Dec. 8 for screwdrivers, and gasoline torches.

Steel Fabric.—Dist. Commrs., Dist. Bldg., Washington, D. C.—Bids Dec. 1 for 3000 sheet steel fabric, reinforcing wire, 8x12½ feet.

Trucks.—Dist. Commrs., Dist. Bldg., Washington, D. C.—Bids Dec. 7 for 2 automobile trucks, 3000-lb. pay load, steel dump, 1½ cu. yd., for D. C. penal institute.

Truck Chassis.—Dist. Commrs., Dist. Bldg., Washington, D. C.—Bids Dec. 1 for 6 truck chassis, equipped with cab and hoist, 8000-lb. pay load, less allowance on 3 trucks.

Water Service Lines.—Bd. of Education, J. W. Henderson, Jr., Business Director—Sec., Ashland, Ky.—Bids Nov. 30 for furnishing and installing 3-in. water service lines at Bayless, Means and Wylie schools.

Wharf, etc.—See Construction News—Miscellaneous Construction.

Woodworking Machinery, etc.—Procurement Div., Veterans' Administration, Washington, D. C.—Bids Dec. 7 for manual training and woodworking bench, scroll saw, electric glue pot, portable jointer, wood turning lathe, power band saw and power universal saw.

Headquarters Third Corps Area, Office Corps Area Engr., 311 St. Paul Pl., Baltimore, Md.—Bids Nov. 30 for:

Lumber—yellow pine
Alcohol—denatured, 50 gal.
Coal Tar—about 200 gal.
Paint—white, outside, 50 gal.
Hacksaw Blades—24
Pipe Dies—3
Hammers—4
Lanterns—6
Shovels—hand, 6
Nails—2 kegs, common wire.

U. S. Coast Guard Headquarters, Washington, D. C.—Bids Dec. 21 for:

Wire Rope—12,000 ft., galv. steel
Thermometers—2, surface and 1 frame
Bottles—600 citrate type, 14 ounce capacity.

Bureau of Yards and Docks Navy Dept., Washington, D. C.—Bids until dates indicated for:

Motor Boat Gasoline Engine Parts—for Mare Island and Hampton Roads, Dec. 8:
Twine—1800 lb. cotton, 165 lb. seine, 600 lb. chalk line and 600 lb. jute, for eastern and western yards, Dec. 1;

Rules and Tapes—for eastern and western yards, Dec. 8;

Wrenches—for eastern and western yards, Dec. 8;

Combination Chemical Fire Engine, Pump and Hose Car—for Washington, Dec. 1;

Pumps, Air Compressors, etc.—2 salt-water drainage pumps, Diesel engine-driven air compressor and kerosene engine driven air compressors and 3 steel air flasks, for Norfolk, Dec. 1;

Linoleum—3000 sq. yd., for Norfolk, Dec. 1;

Lumber (Pine)—for eastern yards, Dec. 8;

Lumber—for eastern and western yards, Dec. 8.

Panama Canal, Gen. Pur. Officer, Washington, D. C.—Bids Dec. 9 for following, Sch. 2704:

Metal cabinets, oil purifiers, rigid steel conduit, cable, wire, transformers, circuit breakers, rectifiers, reflectors, electric fixtures, switches, porcelain insulators, plug fuses, electric bells, mica, pipe fittings, unions, sanitary fixtures, range boilers, etc.

TRADE LITERATURE

(Continued from page 41)

Power Plants.—Volume 7 of the series of booklets, "Modern Central Stations," has been issued by the Ingersoll-Rand Co., Cameron Pump Division, New York and Philadelphia. The volume comprises a selection of material that appeared in various trade journals. In it are described large power plants throughout the country, including Plant Atkinson of the Georgia Power Co., the Belle Isle Station of the Oklahoma Gas & Electric Co., and the Louisiana Station of the Louisiana Steam Products, Inc. The publication is attractively illustrated and contains a wealth of information on power plant design. It is well worthy of binding as suggested by the distributing organization.

Paper Mill Directory.—The 1932 edition of Lockwood's Directory of the paper and allied trades has been issued by the Lockwood Trade Journal Co., Inc., New York. A new feature of the edition is a list of all types of equipment used in pulp and paper mills, with the names of the manufacturers. As heretofore, the directory gives complete information on: Paper, wood pulp and chemical fibre mills of the Americas; products by classifications; mill officials; mill consumption of paper stock and rags; paper specialties; paper dealers; wood pulp importers; rag and paper stock dealers; pulp testing chemists; paper converters; watermarks and brands; trade associations; statistical data.

Aloxite-TP.—The Carborundum Co., Niagara Falls, N. Y., is distributing a manual of modern polishing practice featuring Aloxite-TP, its electrically fused lumina for polishing purposes. The booklet describes the uniformity of strength, shape and size of this material and other qualities. The proper preparation and care of polishing wheels is outlined and data and instructions for the polisher are given.

Forestry.—The work of the Florida Forest Service is outlined in a 15-page booklet issued by the Florida Board of Forestry, Tallahassee. Information is presented on state nursery development and tree planting, on financial aspects of timber growing, on the naval stores program and on study being made of the possibilities of pulp and paper making.

Drainage Material.—In Catalog No. 9, a 24-page illustrated booklet, the Armo Culvert Manufacturers Association, Middletown, Ohio, describes a complete line of drainage products for municipal needs.

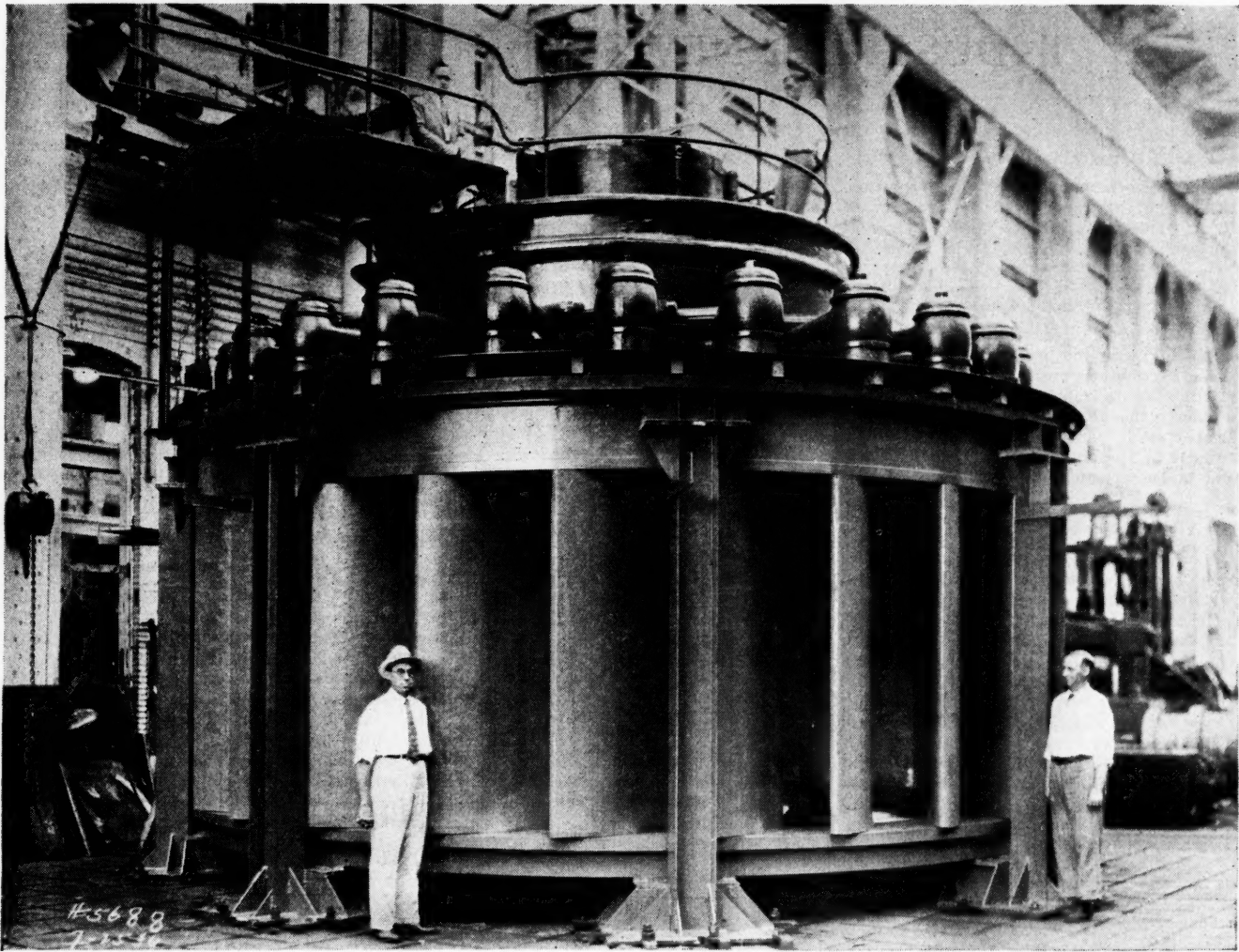
Inventory Instruction.—A 32-page booklet, "How to Take Inventory in a Manufacturing Plant," is offered free by the Barrett Bindery Co., 1328 W. Monroe street, Chicago.

Asphalt Roads.—Manual No. 1 of the Asphalt Road Construction series published by the Asphalt Institute, New York, covers road-mix types of asphalt highway building. The book divides road-mixes into two types and gives the necessary information on surface preparation; labor, equipment and tool requirements; application method; material test and mixture control, and service and cost data. Appropriate illustrations, formulas and tables complete the work.

Reinforcing Steel Industry.—Proceedings of the semi-annual meeting of September 28 to 30, published by the Concrete Reinforcing Steel Institute, indicate the many problems besetting the fabricators of deformed reinforcing bars. Included are the addresses of O. W. Irwin, president, who spoke on the progress and future of the industry, and of Hugh J. Baker, of the Indianapolis firm bearing his name, on how to develop confidence between competitors. Among the brief talks included from representatives from different states on "Our Problems" are the statements from A. G. Harkins, Maryland Steel Products Co., Baltimore; H. A. Tuke, Truscon Steel Co., Washington; Blair M. Boisseau, Virginia Steel Co., Richmond; D. B. Knowlton, Dudley Bar Co., Birmingham, and W. A. E. Woods, Truscon Steel Co., Dallas. Various engineering and other reports that were presented are embodied in the proceedings.

Highway Information.—In a recently released résumé the Highway Research Board of the National Research Council, Washington, gives abstracts from research information not previously extensively published. Cooperation is offered to those who desire details. Among the subjects covered are: Surface Pit Survey on Concrete Pavements, F. V. Reagel, Missouri State Highway Department; Method and Apparatus for Flexural Test of Concrete, V. L. Glover, Illinois Division of Highways; Jointless Concrete Roads, J. H. Walker, London, Eng.; Mortar-Voids Principle in Designing Concrete Mixes, V. L. Glover; Paper for Curing Concrete Slabs, Mark Morris, Iowa State Highway Commission; Unsoundness of Certain Types of Rocks, Mark Morris.

The Swope Plan.—A 211-page volume edited by J. George Frederick and published by the Business Bourse, 80 West 40th street, New York, discusses the proposal of Gerard Swope, president of the General Electric Co., for stabilization of industry. The book contains details, criticism and an analysis of the Swope plan, with its provisions for compulsory organization of industry, Federal regulation, workman's compensation, life insurance disability, unemployment insurance and pensions. Discussion of the feasibility of carrying out the plan in face of the present Constitutional provisions, the Sherman anti-trust law and the Clayton Act is a feature. An authority on the anti-trust situation is quoted on this phase of the problem. Other ramifications of the plan are covered, including the possibility of an economic dictatorship and martial law economics as typified by the action of the Texas and Oklahoma governors in using military means in forcing up the price of oil. "It is obvious," concludes the author, "that the plan needs amending, and this calls for plenty of discussion." Price of the book is \$3.50.



Shop Assembly of 57,000 H. P. Turbine for Spier Falls Station—New York Power and Light Corporation

HYDRO-ELECTRIC POWER

the backbone of the

INDUSTRIAL SOUTH

• • •

ONE OF MANY LARGE HYDRAULIC TURBINES

BUILT BY

Newport News Shipbuilding and Dry Dock Company
NEWPORT NEWS, VIRGINIA

90 Broad Street, New York City

INDUSTRIAL NEWS

Atlanta Manager for Jones & Laughlin

The Jones & Laughlin Steel Corporation, Pittsburgh, has announced appointment of R. R. Garrison as district sales manager of the Atlanta office.

Byers Wrought Iron Sheets

A. M. Byers Co., Pittsburgh, Pa., is now producing wrought iron sheets for roofing, siding and other uses where corrosion resistance is desirable. Produced by Byers at the plant of the Canonsburg Steel and Iron Works, these sheets are being rolled from 10 to 28 gauge up to 38 inches in width and in lengths up to 144 inches.

Vice-President of Davison Chemical

Henry E. Treide has been named executive vice-president of the Davison Chemical Co., widely known producers of sulphuric acid, with general offices in Baltimore. Previously, Mr. Treide had been elected a member of the board. He also is a vice-president and a director of the Baltimore Mail Steamship Co., and a member of the board and director of foreign affairs of the Baltimore Trust Co. Because of broad experience in foreign trade and knowledge of foreign financing, this new Davison official has had a close association with the Export and Import Bureau of the Baltimore Association of Commerce.

Whiting Absorbs Subsidiary

The Whiting Corporation, Harvey, Ill., has absorbed its subsidiary, the Grindle Fuel Equipment Co., which from now on will be operated as the "Pulverizing and Combustion Equipment Division" of the Whiting organization. The company produces pulverized coal systems and has equipped many of the plants now in operation, particularly in the malleable iron field. W. R. Bean, formerly president of the Grindle Fuel Equipment Co., has been made a vice-president of the Whiting Corporation, in charge of the newly formed division.

Completes Illinois Plant

A new plant has been completed at Cairo, Ill., by the Saint Louis Meter & Pump Co., St. Louis, Mo., manufacturers of "Saint Louis" gasoline merchandising units and other equipment for distribution of gasoline and similar liquids. General offices remain at 3020 Olive street, St. Louis.

Foster Wheeler Washington Branch

The Foster Wheeler Corporation, power plant equipment manufacturer, New York, has opened a branch office at 726 Jackson Place, Northwest, Washington, D. C., with J. S. Malseed as sales engineer in charge.

Wright Moves Sales Offices

The Wright Manufacturing Co., an associate of the American Chain Co., Inc., has moved its general sales offices to York, Pa. All matters pertaining to sales and orders should be addressed to that point. Former address of the sales offices was Bridgeport, Conn. The company manufactures Wright hoists, trolleys, cranes, and electric hoists.

Utilities Division Sales Manager

W. S. Pedley has been placed in charge of the public utilities division of the S. P. A. Truck Corporation, with headquarters at Michigan avenue and 26th street, Chicago. Mr. Pedley will handle Studebaker and Pierce Arrow truck sales to utilities. He was formerly with the Highway Trailer Co., Edgerton, Wis., and prior to that spent many years in the utility field in operating and sales capacity.

Steel Windows

Steel double-hung windows will be manufactured by the Reliable Safe & Lock Co., Covington, Ky., who will market the product through the Superior Metal Window Corp., also of Covington. Twenty patentable features are embodied in this new development. The upper sash is conveniently controlled from the inside; provision is made for full length screens, and bronze weather-stripping renders the sash rattle-proof and dust-proof. An air control feature permits the raising and lowering of the sash by pressing a button.



ONE CLEAR FACT

... Out of a tangle of claims about gasoline ... one clear fact stands out ...

THAT GOOD GULF GASOLINE

is bought more places by more people in Gulf's 27 states because car owners buy on performance ... the only fact that counts.

GULF REFINING CO.

CAROLINA STEEL & IRON COMPANY GREENSBORO, N. C.

Sales Office—709 Nissen Bldg., WINSTON-SALEM, N. C.

Structural Steel FOR Buildings and Bridges

Capacity 1000 Tons per Month. 3000 Tons in Stock

The Largest Steel Fabricators in the Carolinas



Manufacturing in the South

is growing at an amazing rate. Over six billion dollars are spent annually for materials, supplies, fuel and power to operate Southern factories. The utilization of its power resources; great hydro-electric sites; fuel supply of coal, lignite, gas and oil is rapidly advancing Southern industry.

**MANUFACTURERS RECORD
BALTIMORE, MARYLAND**

Go Forward With Construction Work This Winter

Although the South has maintained a creditably high level of construction awards this year, there is yet a large amount of private and public industrial construction work that is necessary and should be undertaken this winter and spring.

The South is fortunate in being able to continue its construction operations advantageously the year round.

Building materials and labor are plentiful and prices are low.

Don't allow previously determined projects to lag but go ahead with them and with new work also, under conditions that are now most favorable.

REYNOLDS BROTHERS LUMBER CO.

MANUFACTURERS OF HARDWOODS, CYPRESS AND PINE; BAND MILLS WITH DRY KILNS AND PLANING MILLS.
20,000 acres of Game and Timber Preserve under fence. Three years protection on area stock with elk, deer, quail, turkey,
and pheasants. The best hunting preserve in the south, near modern conveniences and contact with the business world.

ALBANY—GEORGIA

FINANCIAL NEWS

Bond Issues Proposed

Ark., El Dorado—Union County, J. G. Ragsdale, County Judge, recently defeated \$447,000 warrant refunding bonds. 10-1

Ark., Little Rock—State Debt Bd., Gov. Harvey Parnell, Chmn., may postpone sale of \$1,505,000 bonds for financing Agricultural and Mechanical Colleges, Junior Agricultural College and State Teachers' Colleges. 11-19

Fla., Titusville—Brevard County, N. T. Froscher, Clk., votes Jan. 12 on \$1,200,000, 5% bonds to exchange for present outstanding 6% bonds of special road and bridge districts. 11-19

Ga., Augusta—City Council authorized \$2,500,000 electric light and power plant bonds; Paul N. Pope, Atty., Jacksonville, Fla., represents banking interest contemplating purchasing issue.

Ga., Quitman—Dixie Consolidated School Dist. of Brooks County voted \$20,000 improvement bonds.

Ky., Paduach—City, W. V. Eaton, City Solicitor, issue \$350,000, 5½% \$1000 denom. funding bonds; no election necessary. 11-19

La., Gretna—City defeated \$200,000 paving bonds. 10-15

Md., Smithsburg—City votes Dec. 10 on water system bonds; also vote on \$11,480 certificates of indebtedness.

Mo., Houston—Texas County, Rose S. Martin, County Clk., opens bids Dec. 8 for \$25,000, 4, 4½, 5, 5½ or 6%, \$1000 denom., courthouse and jail bonds. (Recently incorrectly noted under Houston, Tex., 11-19.)

N. C., Fayetteville—Cumberland County Comms. authorized \$75,000 refunding bonds.

N. C., Fayetteville—City, J. C. McBuie, Clk., voted \$65,000 bonds for building wharves and docks. 10-15

Okla., Durant—City votes Dec. 8 on \$50,000 sewage disposal system bonds. 11-12

Okla., Oklahoma City—City, M. Peshek, Jr., Clk., call election in spring, 1932, on \$650,000 city hall bonds.

Okla., Oklahoma City—City Council, A. H. Jacoby, Chmn., will recommend election on proposal to issue \$1,525,000 municipal improvement bonds: \$725,000, completing sewage disposal plants; \$800,000, water main extensions; \$200,000, sanitary sewers.

Okla., Tulsa—City, Geo. Watkins, Mayor, immediately offer \$225,000, not to exceed 5% grade separation bonds.

S. C., Spartanburg—Metropolitan Sewerage Comsn., reported, considering calling election on \$70,000 Ben Avon section water and sewerage bonds.

Tenn., Memphis—City School Bd. may issue tax anticipation notes shortly; will require \$400,000 for November and December operating expenses, \$174,000 to retire bank overdraft and \$60,000 to meet debt service charges.

Tex., Abilene—City Comsn. called election for Dec. 19 on \$120,000 refunding bonds.

Tex., Amarillo—City, W. N. Durham, City Mgr., voted \$864,000, 4¼% funding bonds. 10-8

Tex., Austin—City, Adam R. Johnson, City Mgr., received no bids for \$475,000 improvement bonds. 11-5

Tex., Cotulla—LaSalle County, G. A. Welhausen, County Judge, opens bids Dec. 14 for \$600,000, 5% road bonds.

Tex., Longview—Gregg County Comms. Court, reported, may call election on \$1,000,000 short-term road bonds.

Tex., McAllen—City, E. E. Cannon, City Sec., voted refunding warrants. 10-22

Tex., San Antonio—City, James Simpson,

Clk., received no bids for \$2,450,000, 4½%, \$1000 denom. public improvement bonds. 11-5

Tex., Taylor—City, G. V. Hyde, City Mgr., sold \$20,000 school warrants to Lee Lawrence, Taylor.

W. Va., Williamstown—City defeated \$20,000 water plant bonds. 11-5

Bond Issues Sold

La., Leonville—Arnaudville Gravity Drainage Dist. No. 17 of St. Landry and St. Martin Parish sold \$50,000, 6%, \$500 denom. bonds to J. Franklin Schell, Washington, La., at par and accrued interest. 11-5

Tenn., Bristol—City sold \$75,000, 5% funding bonds to First National Bank, Bristol, at par.

Tenn., Knoxville—City, Neil Bass, City Mgr., reported, sold \$1,000,000, 6% revenue anticipation notes to East Tennessee National Bank, Knoxville. 11-5

Tex., Houston—Harris County, H. L. Washburn, County Aud., sold \$1,000,000 road bonds to National Bank of Commerce, at 5% int. rate and second 10-day option on remaining \$1,000,000 at same price. 10-8

New Financial Corporations

Ky., Paduach—Bank being formed with James P. Smith as president.

Tex., El Paso—Universal Securities Corp., capital \$25,000, chartered; D. L. Pillow, 2409 Piedras St.

Tex., Plainview—C. W. Carson, Jr., Amarillo, W. H. Fuqua, Pres., Amarillo First National Bank, Amarillo; John R. Collard, Spearman, and associates plan bank.

Tex., San Antonio—National Bank of Fort Sam Houston, capital \$100,000, chartered; W. S. Scott, Pres.; C. G. Colesworthy, Cashier.

Expand Morris Plan Banking

Increase in the board of directors from seven to 17 members and formulation of plans for further national development of the Morris Plan of Industrial Banking is announced by Walter W. Head, president of the Morris Plan Corporation of America, New York. Bankers elected include: Thomas Coughlin, president of the Morris Plan Bank of Cleveland; Thomas C. Boushall, president of the Morris Plan Bank of Virginia; Arthur A. Blumeyer, president of Industrial Savings Trust Company, St. Louis; Robert O. Bonnell, president, Morris Plan Bank of Baltimore; Ralph W. Pitman, president, Morris Plan Company of Philadelphia; F. Earl Wallace, president, Morris Plan Company of Boston; Wallace D. McLean, executive vice-president, Morris Plan Company of New York; and Ernest F. Smith, chairman of the board, Morris Plan Company of Minneapolis.

"The future expansion policy of Morris Plan from now on will rest solely with the Morris Plan Corporation of America," Mr. Head stated. "In the past, this latter organization has been largely engaged in enfranchising and servicing the various Morris Plan banks which do a \$200,000,000 annual business in 142 cities, in 33 states, and the capital requirements of new development rested with the Industrial Finance Corporation. The Morris Plan Corporation, a wholly

owned subsidiary of Industrial Finance Corporation, now assumes responsibility for both servicing and capitalizing."

Against Importation of Soviet Products

Continuing the efforts being put forth in behalf of the American manganese industry, Senator Tasker L. Oddie of Nevada will offer a bill in Congress to prohibit importation of Russian manganese and other products of the Soviet government. Under date of November 16, Senator Oddie wired the American Manganese Producers Association, Washington, as follows:

"I will introduce bill as soon as Congress convenes December 7 to prohibit importation into United States of manganese ore and other products from Union of Soviet Socialist Republics. Complete shutdown of American manganese industry and serious curtailment in output of other domestic industries which have resulted from dumping into United States of Soviet products at slave labor prices are contributing greatly to present condition of unemployment in this country.

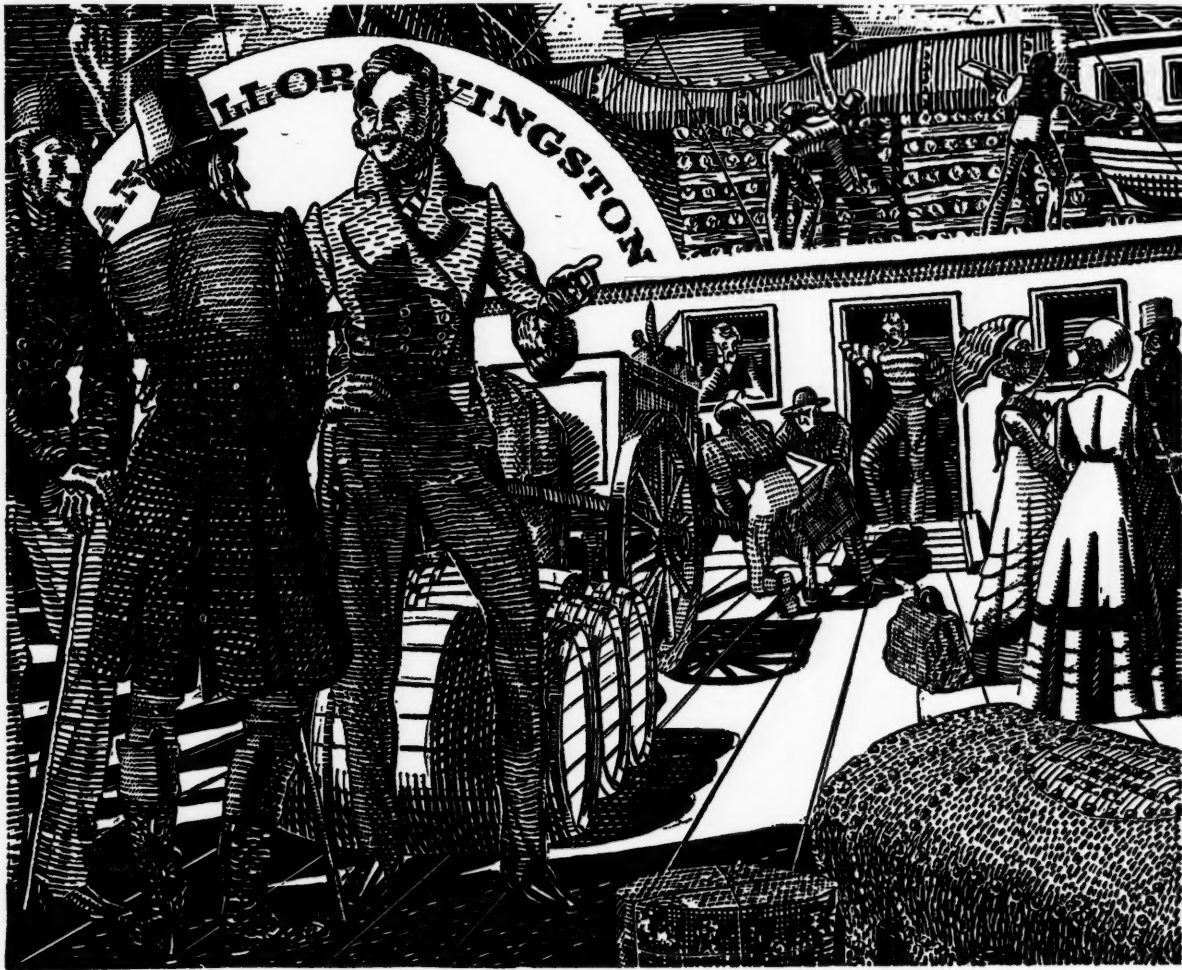
"Nothing would have more beneficial effect in reviving manganese and other industries than enactment of bill which I intend to introduce for purpose of prohibiting competition of Soviet products in American market. It is more important than ever that interest of

American labor be fully protected against competition of forced labor and rapidly depreciating currency of Soviet Government which compels that Government to sell its products at ruinously low prices in order to obtain insignificantly small gold credit for purpose of carrying on its five-year industrial program.

"It has been and still is my contention that United States should be absolutely independent of foreign sources of manganese supply. Domestic industry should be given every opportunity to develop and produce manganese fully to satisfy all requirements of United States in times of peace and war. To this end I pledge my support and will do my best to obtain early action in Congress on my proposed bill."

Heating and Ventilating Exposition

The Second Heating and Ventilating Exposition will be held January 25 to 29, 1932, at Cleveland, Ohio, under the auspices of the American Society of Heating and Ventilating Engineers. Among the participants at the exposition will be the American Gas Association, in the gas heating section; the American Oil Burner Association, in the oil burner section; the American Society of Refrigerating Engineers, in the air-conditioning and refrigerating display group, and the National Warm Air Association, in the warm air heating section.



WHEN STEAMBOAT TRAVEL WAS A REAL ADVENTURE!

When the North River Steamboat Company was organized in 1808, it was generally known as the "Fulton Line." Larger and faster boats than the Clermont were soon put in service between New York and Albany. One of the finest of these was the Chancellor Livingston, which was capable of making ten miles an hour upstream. In 1822 the North River Steamboat Company borrowed fifty-five thousand dollars from the Bank of New York, pledging three of its boats—the Fire Fly, the Richmond and the Chancellor Livingston—as security.

THROUGHOUT its history, antedating the American Constitution, this bank has held individual attention to the requirements of customers the first essential for commercial banking and trusteeships.

Today, this institution, although not one of the very largest, ranks among the strongest in the country, and is entirely adequate to care for the largest estates and trusts and to offer modern banking facilities to responsible corporations, firms, and individuals.

BANK of NEW YORK and TRUST COMPANY

CAPITAL, SURPLUS AND UNDIVIDED PROFITS \$20,000,000

48 WALL STREET, NEW YORK

Uptown Office: Madison Avenue at 63rd Street



NEW YORK
CLEARING HOUSE
MEMBERSHIP
NUMBER ONE
★

Electric Light and Power Taxes

Further increases in the amount of taxes paid by electric light and power companies in the United States are shown by figures compiled by the National Electric Light Association. The increase for 1930 amounted to \$16,000,000 or 8.5 per cent. Out of every dollar of revenue from sales to consumers 10.2 cents were paid in taxes.

In a period of 29 years, 1902 to 1930 inclusive, taxes paid per dollar of gross revenue have exactly trebled. In other words, growth of taxes has outstripped growth of revenue three to one. The table shows growth of taxes paid by electric light and power companies as compared to growth of total gross revenues. These figures include federal, state and local taxes.

RELATION OF TAXES TO GROSS REVENUES			
Year	Total Taxes Paid by Companies	Out of Every Dollar of Consumer Revenue Taxes Take	
1902	\$2,654,885	3.4 cents	
1907	6,345,796	4.2 "	
1912	13,117,198	5.2 "	
1917	29,897,106	6.9 "	
1922	73,128,440	8.4 "	
1926	140,400,000	9.3 "	
1927	157,000,000	9.4 "	
1928	178,000,000	9.9 "	
1929	187,500,000	9.7 "	
1930	203,500,000	10.2 "	

A comparison of total taxes paid by electric light and power companies with revenues from domestic electric service is given in the following table.

RELATION OF TAXES TO DOMESTIC ELECTRIC SERVICE

Year	Total Taxes Paid by Companies	Revenues from Domestic Electric Service (Companies Only)	Ratio of Taxes Paid to Gross Domestic Revenue from Service Per Cent
1912	\$13,117,198	\$74,000,000	18
1917	29,897,106	108,000,000	28
1922	73,128,440	256,000,000	29
1926	140,400,000	432,000,000	32
1927	157,000,000	474,000,000	33
1928	178,000,000	518,000,000	34
1929	187,500,000	561,000,000	33
1930	203,500,000	600,000,000	34

During the period covered, gross revenue from domestic service has increased approximately 700 per cent, but taxes increased 1450 per cent or more than twice as fast. In 1912 the ratio of total taxes to revenue from domestic service was 18 per cent, while in 1930 this ratio was 34 per cent.

San Antonio Engineers Engaged on \$1,325,000 Work

San Antonio, Texas—Matthews & Kenan, consulting engineers, are now associated with projects to involve an expenditure of \$1,325,000 at the University of Texas. Since organization over three years ago, the firm has been engaged on many projects of the Southwest, including bridge construction over the Red Canadian at Borger; over the Beaver

River at Gainesville; over the South and Cimarron rivers near Gate, Okla.; over the Arkansas River near Ellinwood, Kan.; over the Smoky Hill, Republican and Little Blue rivers in Kansas; over the Big Blue, Platt and Elkhorn rivers in Nebraska, and over the Missouri River at Sioux City, Iowa.

Trade Activity at New Orleans

New Orleans, La.—Inland waterway vessels arriving at the Port of New Orleans during October totaled 388, with an aggregate tonnage of 154,086 tons, an increase of 119 craft and 50,821 tons, respectively, over October 1930. Greatly increased activity also featured operations along the Industrial Canal. Vessels using this facility numbered 1362 and had a tonnage of 451,850, or an increase of 733 vessels and 168,544 tons.

During the month wood and paper imports increased 3513 tons. Exports of vegetable food products increased 8825 tons; chemicals increased 1212 tons, and ores, metals and their manufactures increased 311 tons. Almost 2,500,000 bags of Brazilian green coffee have been received during the first 10 months of this year, representing an increase of 340,000 bags over the same period of last year.

The gross tonnage of vessels using the public wharves during October totaled 677,902. Arrivals of sea-going vessels totaled 193 with a tonnage of 777,537. Departures numbered 200.

Commercial Stocks of Coal

Commercial stocks of bituminous coal used largely for industrial purposes amounted to 34,500,000 tons on October 1, according to the quarterly survey of the Bureau of Mines. In comparison with amount on hand at beginning of the previous quarter, this is an increase of 4,400,000 tons, but is 1,400,000 tons less than the quantity in storage on the same date last year.

Exports during the third quarter averaged 295,000 tons a week, as against 382,000 tons during the same period last year. Consumption within the United States for the third quarter amounted to 6,046,000 tons a week, as compared with 6,273,000 tons in the previous quarter. In comparison with the same period last year, the rate shows a decrease of 18 per cent.

In addition to tonnage in the hands of commercial consumers, there were 8,836,000 tons of bituminous in storage at the head of the Lakes, 1,617,000 tons of unbilled coal at the mines, and an unknown quantity amounting to several million tons in cars en route to destination.

Kansas City Sells Bonds

Kansas City, Mo.—Par and accrued interest were paid by the First National Bank of Kansas City for a \$900,000 issue of Ten-Year Plan bonds for carrying on municipal improvements during the coming winter. The bank bid the same figure for a block of \$1,800,000 bonds, but H. F. McElroy, city manager, recommended that but \$900,000 of the securities be sold pending improvement in the bond market.

Planting Black Walnut Trees

North Carolina 4-H club members are stepping to the front as planters of black walnut trees this fall, states R. W. Graeber, extension forester at State College. So far orders have been received from 400 club members who will plant 25 trees each, and applications from several hundred more are expected before the season closes. The trees have been grown by the State Forest nursery near Clayton in Johnston County and are being distributed by the county home and farm agents.

One adult who owns a farm in Chatham County has purchased 2000 trees and began planting November 16.

The Man Who Buys Best

Must have at hand all sources of supply. He needs **Thomas' Register**, a volume of 4700 pages, 9x12—it instantly furnishes a **complete** list of the American manufacturers (with capital ratings) for any article or kind of article. More than 70,000 classifications.

It aims to completely cover all lines and to classify all manufacturers regardless of advertising or other patronage. The only work that meets these specifications. Of course, it is not a "free distribution" publication.

Used in the Purchasing Department of more than 25,000 of those important concerns which demand the best—price \$15.00, and worth more.

New Edition issued Oct. 1931.

Sent for free Examination to any responsible concern.

THOMAS PUBLISHING CO.
461 Eighth Avenue, New York City

HELPFULNESS

is the motto of this Bank.

Let us tell you about it.

BALTIMORE COMMERCIAL BANK

GWYNN CROWTHER, President

26 South Street, Baltimore, Md.

Capital and Surplus \$1,350,000.00 Member Federal Reserve System

We Buy Bonds

City, County, School and Road from
Municipalities and Contractors

WRITE

THE PROVIDENT SAVINGS BANK & TRUST CO.
CINCINNATI OHIO

JOHN NUVEEN & CO.

First National Bank Building

CHICAGO

We purchase SCHOOL, COUNTY and MUNICIPAL
BONDS. Southern Municipal Bonds a Specialty.

Write us if you have bonds for sale

HAVE YOU BONDS FOR SALE?

WE BUY ALL CLASSES OF MUNICIPAL BONDS,
INCLUDING CITY, COUNTY, SCHOOL,
PAVING, ROAD AND DRAINAGE

The Hanchett Bond Co. Inc.

39 SOUTH LA SALLE ST., CHICAGO

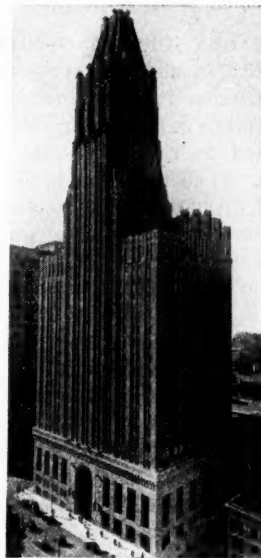
GENERAL WAREHOUSE & STORAGE CO. INCORPORATED

272-274 Marietta St., N. W.
ATLANTA, GA.

Bonded and Free Warehousing

Railroad sidetrack, no switching charge, low insurance, sprinkler
system, pool car distribution, C. L., or L. C. L., trucks and vans.

New Home of the
BALTIMORE TRUST
COMPANY



RECOGNITION of Bal-
timore's many advantages as
one of the best industrial and
shipping centers on the Atlan-
tic Seaboard has influenced
many national concerns in es-
tablishing manufacturing plants here.

A booklet, "Locate in Baltimore," describing these ad-
vantages will be mailed on request.

BALTIMORE TRUST COMPANY

MEMBER FEDERAL RESERVE SYSTEM

THE OSCAR T. SMITH & SON CO.

Manufacturing

BANK AND COMMERCIAL STATIONERS

407-9-11 E. Saratoga Street

BALTIMORE, MD.

CHARACTER

QUALITY

— SERVICE —

DAILY CONSTRUCTION BULLETIN

Published by
The Manufacturers Record

The quickest news
service available
covering industrial
activity in the
SOUTH.

\$3,400,000 Missouri Roads

Jefferson City, Mo.—Bids will be opened December 3 by the State Highway Commission for the construction of 97 road projects and one bridge project, estimated to cost \$3,400,000. The road work will cover a total of more than 300 miles, including approximately 23 miles of concrete, 249 miles of gravel and 46 miles of graded earth. The biggest portion of construction will be on a supplementary road system, it is explained, and is designed to help the unemployment situation. Included in the projects will be 17 miles of 20-foot concrete paving on highway 61 east of Independence in Jackson County, involving bridges over the Kansas City Southern railroad tracks and the Little Blue River. This project is estimated to cost \$800,000. It is understood that the December letting will not interfere with a \$10,000,000 letting planned for January.

Texas Asks Road Bids

Austin, Texas—Bids on road and bridge work estimated to involve expenditure of \$2,000,000 will be opened by the State Highway Commission at its meeting, November 30 and December 1 and 2. The work is located in 21 counties and includes 102 miles of grading and draining, 19.5 miles of concrete paving and 95.3 miles of hard surface and base work.

Alcohol Plant for Florida County

Inverness, Fla.—The American Can Products Corp., organized by A. A. Marshall, will erect a plant here for distillation of alcohol from cane sugar. Contract for building the plant has been awarded the Philadelphia Coppersmithing Co., Philadelphia, Pa. The machinery will cost \$106,000. Oscar Barnes, of Lecanto, will supervise the work. Scofield and Scofield are the attorneys.

Ford Acquires Site in Virginia

Alexandria, Va.—The Ford Motor Co., Detroit, Mich., has acquired the property formerly owned and occupied by the George Washington Stone Corp., at the foot of Franklin street in Alexandria, for the purpose of erecting a plant, according to an announcement by the Alexandria Chamber of Commerce, Dan S. Hellenga, Business Manager. The five-acre site is located on the Potomac River and is served by the Southern Railway. The deep river channel will allow large steamers, owned and operated by the Ford Motor Co., to load and unload at

this point. The selection of the site was made because of its strategic location for the distribution of products and because of transportation advantages. An announcement in regard to plans for the proposed buildings is expected within a few weeks. Richard B. English, Washington, D. C., is district manager of the Ford Motor Co.

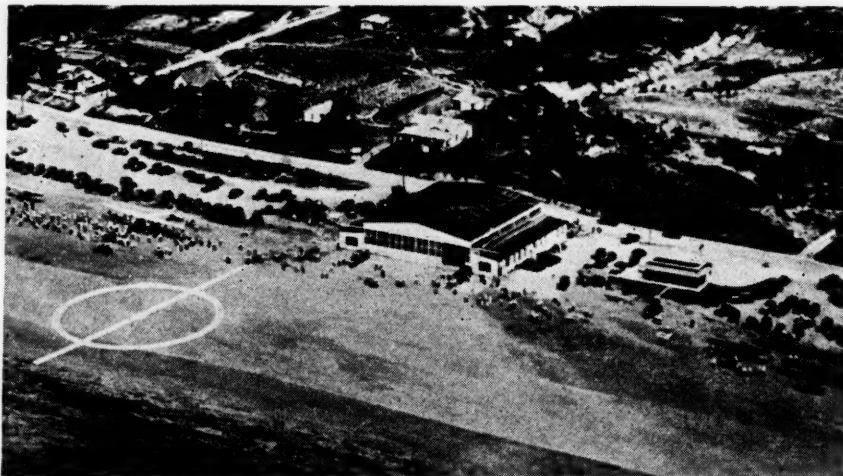
Hosiery Mill Architect

Loudon, Tenn.—W. H. Sears, Chattanooga, is architect for the full fashioned hosiery mill to be located here by Charles H. Bacon Co., Lenoir City, Tenn. It is understood that a mill building 100 by 150 feet will be required for equipment purchased from an Eastern plant.

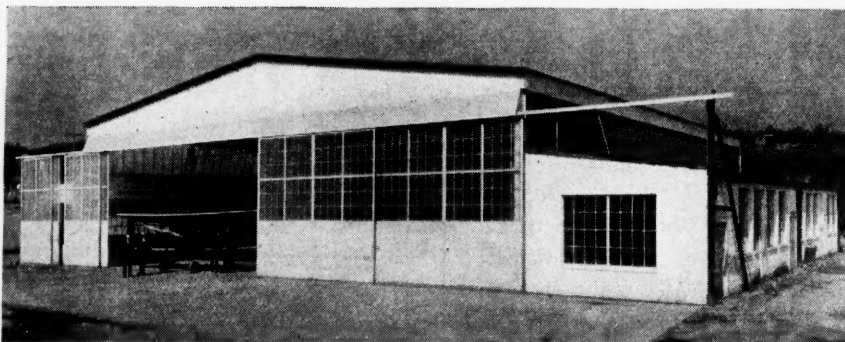
Knoxville's Airport

In the development of its airport Knoxville has gone forward with several improvements, under the administration of City Manager George Dempster. The new hangar, a fireproof structure, 120 by 100 feet, has the monitor so arranged as to open quickly to allow hot gases to escape—in the event a plane catches fire—before endangering the hangar and contents. The floor is of asphalt and is said to be a factor of safety in preventing fires due to sparks caused by friction. General contractor for the hangar was Harve Rogers, and

asphalt floor was laid by the Murray Construction Company. Concrete was supplied by the Ready-Mixed Concrete Company, wall tile by the Duntile Company and steel by the Ingalls Iron Works, Birmingham. The roof, a Holo-rib steel decking covered with Insulite, and steel sash, Holo-Rib, sash operators and hangar doors were all made by the Detroit Steel Products Company, local representative being the Charles M. Allen Company, Knoxville. Manley & Young, Knoxville, were the architects-engineers.



Landing Field and Hangar



Fireproof Structure Recently Completed

New Tonnage for Port of Houston

Efforts of the Houston Port Bureau to secure new tonnage during the past few months have met with success, it is announced, while indications point to a still greater volume of business in the coming months. A statement from Houston says:

"Not only have the efforts of the Port Bureau resulted in an increase in the tonnage moving over the Houston wharves, but also they have resulted in opening new avenues of trade for Southwest manufacturers. In accomplishing this, the bureau has been working toward fulfillment of the twofold mission for which it was founded.

"Of particular importance relative to the business secured was the contract recently awarded by the Panama Railroad Company for 50,000 barrels of cement. Under terms of the contract the cement is being moved through Houston in five lots of 10,000 barrels each, and will extend over a period of several months.

"Still another accomplishment which can be credited to the Port Bureau is the securing of a contract for 200,000 pounds of oats, which will be moved from Houston to Panama.

"Numerous contracts covering purchases of flour have been consummated by the millers in this vicinity and the Panama Railroad Company, largely due to the bureau. Efforts put forth have resulted in a material increase in the volume of coffee being imported through this port.

"This represents only a portion of the accomplishments of the past few months, inasmuch as valuable assistance has been rendered to shippers and importers throughout the United States in solving problems of their foreign trade. Offices of the bureau, both at New York and Kansas City, are ready to render any possible service to the foreign trader.

"Despite economic conditions, Houston continues to show but a slight decline in the amount of business moving over its wharves. Statistics covering the first nine months of this year reflect a loss of 11 per cent in tonnage, but virtually all of this can be attributed to a slump in volume of petroleum and petroleum products. It also is interesting to note that tonnage handled thus far this year is larger than in any year previous to 1930, which shows that Houston continues to maintain high ranking as a port.

"Houston now has exported in excess of 600,000 bales of cotton this season, which gives a lead of more than 200,000 bales over the nearest competitor. Indications are that more than 1,000,000 bales will have been exported by the time this appears in print."

Baltimore Apartment House

A 10-story apartment house will be erected in Baltimore by the Northway Apartment Co., of which Irving C. Goldstein is president, at the northwest cor-

ner of Charles street and Bishop's road. It is expected that the building will contain space for 78 families. Palmer and Lamdin is the architectural firm preparing the plans. The Abell Building Co. will be the builder.

Work Begins on Pipe Line

Work has been started by the Arkansas-Louisiana Pipe Line Co., Shreveport, La., on laying a six-inch pipe line from the Panola County gas field to Waskom in Texas. From 200 to 300 workers will be employed on the line, which will convey gas to the United Gas Company's plant at Waskom.

Atlanta Post Office Bids

Atlanta, Ga.—Bids will be received December 28 by the supervising architect of the Treasury Department, Washington, for construction of the Atlanta post office superstructure. This portion of the project will involve \$1,850,000. Of the original \$2,975,000 appropriated, \$876,000 was used to purchase the site at Spring and Hunter streets and \$249,000 is being expended for the foundation and tunnel. To be of fireproof construction, the new structure is to cover a site of about 300 by 150 feet and to be five stories above the basement. Equipment will cost about \$200,000. A. Ten Eyck Brown is the architect; A. Barilli, Jr., and J. Wharton Humphreys, associates. Robert G. Lose, is the structural engineer; Robert Newcomb, the mechanical engineer.

New Gadsden Airport

Gadsden, Ala.—A new airport being constructed at Gadsden, Ala., by the Gulf States Steel Co., Birmingham, will be dedicated December 10, according to invitations now being issued by the City of Gadsden and the Gadsden Chamber of Commerce. The formal dedicatory address will be delivered by W. H. Coverdale, president of the company, and the acceptance address by Judge L. L. Herzberg, president of the Gadsden City Commission. Representatives of the Aeronautics Division of the United States Department of Commerce are expected to be present. Two 1600-foot runways will be provided, 100 feet wide, and obstructions cleared, so that the effect will virtually be the same as would be provided by 2500-foot runways. A filling station, wind sock and other facilities will also be provided. While the steel company is bearing the entire cost of construction, it will extend all privileges of the field to any who may desire to use it. The new airport will be known as the Gulfsteel Airport of Gadsden.

Training Driver-Salesmen

A strong back is no longer the prime qualification for the man who wants a job driving a truck, according to a survey just completed by the Policyholders Service Bureau of the Metropolitan Life Insurance Company. In fact, the report goes even further and suggests that the old-time husky driver is disappearing, giving way to a new personage, the driver-salesman, a man who is a salesman first and a driver only incidentally.

The report prepared by the Metropolitan, in cooperation with a number of companies in industries employing routemen, notably the food, ice, laundry, coal, beverage, meat, dairy and baking industries, bears the title, "Training Driver-Salesmen," and describes training methods that are being adopted to convert the one-time driver into a "merchandiser."

"Recently," says the report, "there has been significant progress in the training of driver-salesmen. A growing number of companies have adopted training programs, and not a few others have enlarged their training plans. One large corporation employs a professor of psychology and a professor of salesmanship in one of the large universities, and many others employ special instructors and offer special training courses to help routemen in their sales work."

The report describes methods that are being used successfully in preparing a program and in carrying it out, and contains a section devoted to sources of information useful in developing the program. Such questions are discussed as: What methods of training should be used; who should do the training; what should be taught; what results are accomplished by training.

Plan Granite Finishing Plant

Elberton, Ga.—The Dixie Granite Co., wholesale producer of finished and semi-finished granite monuments, contemplates erecting a finishing plant to be placed in operation shortly after the first of January. To be equipped with modern granite working machinery throughout, the new building will be 35 by 100 feet. Since organization in 1929, the company has kept its plant operating practically all the time. Sales during the first 10 months of this year, although figured on a lower price basis, have equaled sales for the entire year of 1930.

As an entirety, the granite industry in the Elberton district has been on a firm foundation. Rapid gains have been made each year for the past several years. Distribution is constantly expanding, Elberton granite now being shipped into practically every state and into Canada, Alaska and Cuba.

Supreme Court Building Contract

Washington, D. C.—George A. Fuller Co., Washington and New York, has been awarded contract at \$8,333,000 for erection of the stone and brick superstructure of the Supreme Court Building. Of Corinthian type architecture, this fireproof structure will be 385 by 304 feet, with a central section of four stories, a western section of three stories, and lower remaining sections. The Supreme Court room will be 94 feet square and approximately 30 feet in height. Cass Gilbert, New York, is the architect.

Lockwood Greene Engineers, Inc., New York, who designed the building, will supervise construction.

Eastern Air Transport Passes 2,000,000-Pound Air Mail Mark

Air mail totaling 2,003,918 pounds has been carried by the Eastern Air Transport, Inc., over its route between New York and Washington and cities of the South. Planes of the organization have flown 6,549,200 miles on schedule. Passengers are being transported at the rate of nearly 4000 monthly, and it is expected that reductions recently made in fares will help to increase this figure. Reductions averaged 14 per cent for one way fares and 25 per cent for round trips, and affected all points on the company's route, including New York, Washington, Norfolk, Atlanta, Jacksonville, Miami and 17 other cities.

A. G. C. Meeting

The Associated General Contractors of America will hold its thirteenth annual convention January 18 to 21, 1932, at the Schroeder Hotel, Milwaukee, Wis. It is expected that the outstanding subject for discussion will be the procedure necessary to accelerate construction activity. The financial aspects of construction will also be considered.

Ask Mill Addition Bids

Charlottesville, Va.—Bids have been asked for an addition to the Charlottesville Woolen Mills. The structure will be four stories high and basement and will be constructed of brick and steel. Machinery will be transferred from several smaller and obsolete buildings.

Central Texas Company Acquires Hamilton Dam

Llano, Texas—Interest of the Emery, Peck & Rockwood Development Co., Seguin, Texas, and Chicago, Ill., has been purchased by the Central Texas Hydro-Electric Co. The transaction includes the Hamilton dam under construction in Llano and Burnet counties and the sites for five other projects proposed on the Colorado River. F. A. Dale is manager with headquarters at the Hamilton dam site.



PROPOSALS

BOND ISSUES BUILDINGS PAVING GOOD ROADS



Bids close December 1, 1931.

U. S. Engineer Office, Rock Island, Illinois—Sealed bids, in duplicate, will be received until 10.00 A. M. December 1, 1931, and then opened for the sale of surplus narrow gauge locomotives, with track, frogs, switches, etc., steam and gasoline hoisting engines, electric light plants, centrifugal and rotary pumps, air drill on truck, jet condensers, etc. Further information on application.

Bids close December 15, 1931.

U. S. ENGINEER OFFICE, FIRST NEW ORLEANS DISTRICT, Poland and Dauphine Streets, New Orleans, La., November 14, 1931.—Sealed bids, in duplicate, will be received until 2 P. M., December 15, 1931, and then publicly opened, for furnishing all labor and materials and performing all work for furnishing, setting and erecting the fixed irons, gates and operating machinery for the lock which is being built in the Louisiana and Texas Intracoastal Waterway at Harvey, La. Further information on application.

Bids close December 11, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., November 13, 1931.—SEALED BIDS, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., December 11, 1931, for furnishing all labor and materials and performing all work for the construction of the U. S. post office at Elizabethton, Tenn. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$15.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. JAS. A. WETMORE, Acting Supervising Architect.

GENERAL INFORMATION About Proposal Advertising in Manufacturers Record

PUBLICATION DAY: Thursday.
FORMS CLOSE: 10 A. M. Tuesday.

When too late to send copy by regular mail to reach us by 10 A. M. Tuesday, forward by night letter or air mail when possible

THE DAILY CONSTRUCTION BULLETIN OF THE MANUFACTURERS RECORD

Published every business day, gives information about the industrial, commercial and financial activities of the South and Southwest.

The Daily Construction Bulletin can be used to advantage when copy cannot reach us in time for publication in the Manufacturers Record before bids are to be opened or when daily insertions are necessary to meet legal requirements.

The rate is the same for both publications—35 cents a line each insertion.

Bids close December 8, 1931.

SEALED BIDS, in triplicate, subject to the conditions contained herein, will be received by the Veterans Administration, Room 764, Arlington Building, Washington, D. C., until 2.30 P. M., December 8, 1931, and then publicly opened for furnishing all labor and materials and performing all work required for constructing and finishing complete at VETERANS ADMINISTRATION HOME, BILOXI, MISSISSIPPI, BUILDINGS AND UTILITIES, including roads, walks, grading and drainage. This work will include excavating, concrete piling, reinforced concrete, hollow cement blocks, hollow tile, brick work, cut stone, cast stone, slate stair treads, marble work, ter-

razzo, floor and wall tile, compressed asphalt tile and linoleum floors, iron work, flagpole, steel sash, steel stairs, steel shelving, cabinets and partitions, shingle tile, metal and built-up roofing, roof ventilators, metal lathing, plastering, sound-deadening, carpentry, metal weather strips, insect screens, platform scales, painting, glazing, hardware, plumbing, refrigerating and ice-making plant, boiler plant equipment, heating and ventilating, electrical work, electric elevators, steel water tank and tower, sewage disposal works, and outside sewer, water, gas, steam and electric distribution systems. SEPARATE BIDS will be received for (a) General Construction of Hospital Buildings, etc., including alternates; (b) Plumbing, Heating, Electrical Work and Outside Distribution Systems for all work included in Item I; (c) Electric Elevators; (d) Steel Water Tank and Tower; (e) Refrigerating and Ice Making Plant and (f) General Construction of Nurses Quarters, Garage and alternates including Plumbing, Heating, and Electrical Work and outside service connections; all as set forth on bid form. Bids will be considered only from individuals, firms or corporations possessing satisfactory financial and technical ability, equipment and organization to insure speedy completion of the contract and in making awards, the records of bidders for expedition and satisfactory performance on contracts of similar character and magnitude will be carefully considered. At the discretion of the Administrator, drawings and specifications may be obtained upon application to the Construction Service, Room 764, Arlington Building, Washington, D. C. While no deposit will be necessary, return of the drawings and specifications within ten days after date of opening bids will be required. In case no bid is to be submitted, the return of plans and specifications, as soon as this fact has been determined, and before the date for opening bids, is requested. Compliance with the requirement and with the request indicated will be considered in connection with future applications for drawings and specifications. George E. Ijams, Assistant Administrator. November 2, 1931.

Bids close December 9, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., November 11, 1931.—**SEALED BIDS** in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., December 9, 1931, for furnishing all labor and materials and performing all work for the construction of the United States Post Office, etc., at Bristol, Va. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding three sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. **JAS. A. WETMORE**, Acting Supervising Architect.

Bids close December 8, 1931.

TREASURY DEPARTMENT, office of the supervising architect, Washington, D. C., November 10, 1931.—**SEALED BIDS**, in duplicate, subject to the conditions contained herein, will be publicly opened in this office at 3 p. m., December 8, 1931, for furnishing all labor and materials and performing all work for the construction, except elevators, of the U. S. post office, court house, etc., at Lynchburg, Va. The prevailing rate of wage shall be paid all laborers and mechanics employed on the project as provided in the Act of March 3, 1931 (Public No. 798). Drawings and specifications, not exceeding 3 sets, may be obtained at this office, in the discretion of the supervising architect, by any satisfactory general contractor, and provided a deposit of \$25.00 is made for each set to assure its prompt return. Checks offered as deposits must be made payable to the order of the Treasurer of the United States. Cash deposits will not be accepted. **JAS. A. WETMORE**, Acting Supervising Architect.

Bids close December 15, 1931.

U. S. Engineer Office, Wilmington, N. C. Sealed Bids, in duplicate, will be received until 12 o'clock noon, December 15, 1931, and then publicly opened, for furnishing all labor and materials and performing all work for dredging approximately 67,680 cubic yards of rock and soft materials, mixed, in Section II and approximately 88,700 cubic yards of soft materials in Sections I and II of the Intracoastal Waterway, Beaufort to Cape Fear River, N. C.

\$125,000 Refunding Bonds

Charleston, Miss. Tallahatchie County, Mississippi, will offer for sale \$125,000 of Refunding bonds, under Senate Bill Number One. Persons interested should communicate with Chancery Clerk, Charleston, Mississippi.

Bids close December 1, 1931.

Bridges

DEPARTMENT OF PUBLIC WORKS
STATE OF MARYLAND
STATE ROADS COMMISSION

NOTICE TO CONTRACTORS

Baltimore, Md. **SEALED PROPOSALS** for construction, etc., of bridges as follows:
Cecil County, Contract No. Ce-77-23—Substructure, superstructure (with the exception of the structural steel span over the railroad tracks), approaches, etc., for the proposed grade elimination over the relocated tracks of the Pennsylvania Railroad Company at Bridge Street, Elkton.
Cecil County, Contract No. Ce-123-23—Fabrication and erection of the structural steel girder span for the proposed grade elimination over the relocated tracks of the Pennsylvania Railroad Company at Bridge Street, Elkton.
Montgomery County, Contract No. M-197-37—Removal of the reinforced concrete viaduct over Sligo Branch on Carroll Avenue in Takoma Park.
Queen Anne's County, Contract No. Q-74-28—Removal of the earth filled west

causeway at the site of the removed highway bridge at Kent Island Narrows on the road from Stevensville to Queenstown

will be received by the State Roads Commission at its offices, Federal Reserve Bank Building, Calvert and Lexington Streets, Baltimore, Maryland, until 12 M. on the 1st day of December, 1931, at which time and place they will be publicly opened and read.

Bids must be made upon the blank proposal form which, with specifications and plans, will be furnished by the Commission upon application and cash payment of \$1.00, as hereafter no charges will be permitted.

No bids will be received unless accompanied by a certified check, payable to the State Roads Commission of Maryland, as required by Sec. 6, Chapter 539, Acts of 1931, of the amount as set forth in the proposal form.

The successful bidder will be required to give bond and comply with the Acts of the General Assembly of Maryland respecting contracts.

The Commission reserves the right to reject any and all bids.

BY ORDER of the State Roads Commission this 17th day of November, 1931.

G. CLINTON UHL, Chairman.

L. H. STEUART, Secretary.

Bids close December 3, 1931.

500,000 Gallons Elevated Tank

Gaffney, S. C.

Sealed proposals will be received by the Board of Public Works of Gaffney, S. C., until two P. M., December 3, 1931, for furnishing all materials and erecting an elevated tank of 500,000 gallons capacity.

A certified check, payable to the Board, in the amount of 5% of the bid will be required. Bond will be required of the successful bidder.

Specifications may be obtained from Wiedman & Singleton, Engineers, 1404 Candler Building, Atlanta, Ga.

L. V. GAFFNEY,
Supt. Public Works.

CLASSIFIED OPPORTUNITIES

MINERAL AND TIMBER LANDS, WATER POWER, MISCELLANEOUS PROPERTIES

GOLD PROPERTY
FOR SALE—Gold property eight feet quartz, assay on top, \$42 per ton; 192 acres. **W. A. OWENBY**, Mineral Bluff, Ga.

FARM, FRUIT AND TRUCK LANDS

OHIO
FOR SALE—80-acre farm, good house and 8000 feet standing timber, more or less, on farm, all sizes, mostly oak; in Athens County, 2 miles from Beebe, Ohio. **MRS. C. J. JOHNSON**, Coolville, Route 2, Ohio.

SOUTHERN ESTATE

FOR SALE several beautiful Colonial estates, from 150 to 3,000 acres, with large handsome Colonial residences, 12 to 22 rooms, many baths, modern in every way, ready for occupancy, at one-half price. Write for description and Price.

M. C. MANN,
with Tyler and Bradley, Inc.,
24 North 8th St.,
Richmond, Va.

BUSINESS OPPORTUNITIES

MOVING AHEAD

Parkersburg has worked out of the depression. Diversified industry did it. Locate your factory here at the gateway to the Central West and South.

BOARD OF COMMERCE,
Parkersburg, West Virginia.

Rates, Terms and Conditions

RATES: 30 cents a line each insertion. Minimum space accepted, four lines. In estimating the cost allow six or seven words of ordinary length to line. When the advertisement contains a number of long words proper allowance should be made.

Rates for Special Contract:

100 lines 28c a line
300 lines 26c a line
500 lines or more 25c a line

TERMS: For transient advertising cash with order; check, post office or express money order or stamps accepted.

On special contract advertising bills are rendered monthly, covering space used each month, payable within ten days.

CONDITIONS: No patent medicine, oil or mining stock advertisements or questionable or undesirable advertisements will be accepted. The assistance of our readers in excluding undesirable advertisements is requested. No display type used.

FARM AND INDUSTRIAL SITES

FOR SALE—FARM AND INDUSTRIAL SITES. With River, Rail and Highway facilities; 20 miles above New Orleans. Inducements offered.

C. B. FERDON, Norco, La.

INDUSTRIES WANTED

ADA, OKLAHOMA, offers ideal location for industries, either new or re-location. Cheap natural gas, power, water, labor. Railroad and highway center. If interested write secretary Chamber of Commerce, Box 248.

WAREHOUSE

FOR SALE OR FOR RENT OR LEASE

As A Whole Or Part
4 Acres on the King's Highway (Gosport Road), Portsmouth, Va., with Belt Line Railroad connection—800 feet private side track, large sheds and warehouse all fenced, suitable for indoor or outdoor storage. **McEWEN LUMBER COMPANY**, High Point, N. C.

FACTORY BUILDING

FOR SALE OR LEASE—New one-story, steel frame, concrete block industrial building near New York City. Size 85x120, on land 125x150. Head room 18 feet. Building suitable for factory or distributing and servicing point. Heavy industrial zone. Railroad switch connecting with Jersey Central, D. L. & W. and Lehigh Valley Railroads. Easy terms. Address No. 9147, care of Manufacturers Record, Baltimore.

BUSINESS OPPORTUNITIES

FOR SALE—Corner lot, large dwelling and store, with grocery stock and fixtures. Price right; terms.

A. T. CURTIS, Chester, Va.

FACTORY SITES

FOR RENT—Lot containing 43,000 sq. ft. with side track, suitable for factory or oil and gas storage and distributing plant. KENTUCKY & INDIANA TERMINAL R. R. CO., 2910 High Street, Louisville, Ky.

PATENT ATTORNEYS

PATENTS—Booklet free. Highest references. Best results. Promptness assured. WATSON E. COLEMAN, Patent Lawyer, 724 Ninth St., N. W., Washington, D. C.

FREE "PATENT PARTICULARS" Sterling Buck, over 25 years Registered Patent Attorney. Prompt and thorough services. Suite M 629 F, Washington, D. C.

PAUL B. EATON, Patent Attorney 1408-R Johnston Bldg., Charlotte, N. C. 914 Munsey Building, Washington, D. C. 417 Wachovia Bldg., Winston-Salem, N. C.

SEYMOUR & BRIGHT, Registered Patent Attorneys. Established 1876. PATENTS, TRADEMARKS, COPYRIGHTS. Prompt and thorough service. Suite 892, National Press Building, Washington, D. C.

REPRESENTATIVES WANTED

MEN WANTED who sell fire appliances, to handle a Gasoline Non-Explosive safety valve for use on all gasoline tanks and a line of one and five gallon Non-Explosive gasoline cans.

EMERSON ENGINEERING CORP., Alexandria, Va.

AGENCIES WANTED

WANTED—Agency in Southeastern states for contractors' equipment and county supplies. M. H. ELDER CULVERT & MCHY. CO., 653-5 Whitehall St., S. W., Atlanta, Ga.

PARTY WITH WIDE BUSINESS EXPERIENCE now visiting New York, Philadelphia, Baltimore and Washington weekly, in a position to give dignified representation to one or two responsible firms requiring limited service in either solicitations or adjustments. Address No. 9148, care of Manufacturers Record, Baltimore, Md.

MEN WANTED

EXECUTIVES—If you are capable of earning \$5000 or more, write us at once. Our personal and confidential service quickly locates suitable openings. If you can qualify for responsible position, write today for complete details. M. E. HILL, 310 Commerce Building, Nashville, Tenn.

IF YOU ARE OPEN to overtures for new connection and qualified for a salary between \$2500 and \$25,000, your response to this announcement is invited. The undersigned provides a thoroughly organized service of recognized standards and reputation, through which preliminaries are negotiated confidentially for positions of the caliber indicated. The procedure is individualized to each client's personal requirements, your identity covered and present position protected. Established twenty-two years. Send only name and address for details.

R. W. BIXBY, INC., 103 Downtown Bldg. Buffalo, New York

FOUNDRIES

STEEL CASTINGS
Rough or Machined.
W. W. PETTIS COMPANY,
Cincinnati, Ohio.

MACHINERY AND SUPPLIES

REFRIGERATING MACHINERY

For sale, Vogt 20-ton absorption refrigerating machine and Frick 35-ton refrigerating compressor direct-connected to Uniflow steam engine. Both machines in good condition and can be seen in operation. Selling because we have purchased larger equipment. FIELD PACKING CO., Owensboro, Ky.

FOR SALE

15"x8' Gold Seal Cone Head Quick Change Lathe \$325.00
15"x8' Sebastian Geared Head Quick Change Motor Drive Lathe \$325.00
14"x8' Sebastian Loose Change Cone Head Lathe \$125.00
All Rebuilt and Repainted.
SEBASTIAN LATHE CO., Cincinnati, Ohio.

13"x8' WILLARD LATHE, taper attachment \$150.00
46"x18' Niles-Bement-Pond Lathe, taper attachment. Quick change. \$1150.00
24"x22' Bradford Lathe, taper attachment 725.00
No. 1 1/2 Valley City Milling Machine 300.00
24" Queen City B. G. Crank Shaper 675.00
22" Barnes Drill Press B.G. PF. 115.00
CINCINNATI MACHINERY & SUPPLY CO., 25 West 2nd St., Cincinnati, Ohio.



RESALE DEPARTMENT

MACHINERY
EQUIPMENT
SUPPLIES



Second Hand and New Wrought Steel **PIPE** Overhauled New Threads and Couplings
Also Cut to Sketch

Greenpoint Iron & Pipe Co., Inc.
187-205 Maspeth Ave. Brooklyn, N. Y.

If you want to get
SOUTHERN business
advertise in the
MANUFACTURERS RECORD
BALTIMORE, MD.

IRON AND STEEL PIPE
Large quantity new and used Government material in excellent condition, ready for immediate shipment. Low prices.
CENTRAL PIPE & SUPPLY CO.
Box 1099 Charleston, W. Va.

PIPE

Rethreaded, reconditioned, guaranteed suitable for all practical purposes, furnished with new threads and couplings, 400,000 ft. in all sizes from 24" to 3/4" diam.

5000 ft. 8" NEW GALVANIZED CORRUGATED pipe in lengths 16 to 20 ft. suitable for exhaust drains, water systems, sewers, conduits, etc., complete with necessary sleeves.

Very attractive prices.

Marine Metal & Supply Co.
167 South Street, New York City

PIPE NEW
SECOND HAND

Overhauled and Tested
New Threads and Couplings
Established 1904

**Albert & Davidson
Pipe Corp.**

Second Ave., 50th-51st St., Brooklyn, N. Y.
Telephone Sunset 1900

SATISFACTION

ALBERT PIPE SUPPLY CO., INC.

NEW-RECLAIMED-USED

PIPE

ALL SIZES CUT TO SKETCH
AND STOCKED

**BERRY & NORTH 13th STS.
BROOKLYN, N.Y.**

GUARANTEED

IF IT'S NEW PIPE OR SECOND HAND

black or galvanized up to 12"—we have it. Cut and threaded to any length. SPECIAL: a carload of 3" or 4". Cheap at any time, rethreaded and coupled.

Your inquiry means—Another satisfied customer.

HUDSON PIPE AND SUPPLY COMPANY
34th Street and C. R. R. of N. J. Bayonne, N. J.

YOU may replace certain machinery in your plant this year. Let us help you sell the equipment you will no longer need by advertising it in

THE RESALE DEPARTMENT
Manufacturers Record Baltimore, Md.

FOR SALE

Machinery and Equipment
formerly used by the
Long Fibre Textile Corporation
Roanoke, Virginia
consisting of

1 Sargent & Sons wool and cotton washing and drying machine.
10 sets of single carding machines.
4 sets of double carding machines.
Also pickers, chemical vats and other small tools.
This machinery can be used for Ramie grass, cotton or wool. All equipment is installed, ready for operation.

For further information write the
Eureka Investment Corporation
Box 974, Roanoke, Va.

ROAD FORMS

For Sale or Trade

12,000 ft. 9x6 Blaw-Knox Road forms, straight-edged and complete.

AL J. GOODMAN
REIDSVILLE, N. C.

Familiarize yourself

with the

SOUTH'S progress

by reading the

MANUFACTURERS RECORD
BALTIMORE, MD.

BIG TANKS

We offer at downright giveaway prices the following gasoline storage tanks, practically new:

- 1— 4,000 barrel capacity
- 1— 5,000 barrel capacity
- 4—10,000 barrel capacity
- 7—25,000 barrel capacity
- 11—55,000 barrel capacity

W. M. Smith & Company
P. O. BOX 1709
BIRMINGHAM, ALA

WANTED

One A. C. Generator direct connected to 300 to 750 H. P. Engine, must be in good condition and cheap for cash. Also motor—late type 15 to 100 H. P. 440 volts.

Address A-511
c/o MR. Baltimore, Md.

RARE DIESEL VALUES

110 HP Bessemer, 3 cyl, 220 V., A. C. Generator.
180 HP Fairbanks-Morse "VA"—with clutch.
750 HP Fulton, Generating or Belted service.
Power Equipment in all sizes and types.

WEHNER & SWASEY
Railway Exchange Bldg., St. Louis, Mo.
Your inquiries and offerings are requested.

AIR COMPRESSOR

1050 cu. ft. Worthington 18" & 11"x14" Duplex, Two Stages, Feather Valve. With intercooler, idler and unloader.

Guaranteed Condition

DELTA EQUIPMENT COMPANY
148 N. 3d Street, Philadelphia, Pa.

RAILROAD AND CONTRACTORS' EQUIPMENT

STEEL SHEET PILING

NEW and USED

Rented — Sold — Bought

Stocks at principal points.

HYMAN-MICHAELS COMPANY

St. Louis CHICAGO New York
Houston San Francisco Seattle

SPECIAL BARGAIN IN STEAM HOIST

1—7 x 10 DC DD Lidgerwood, with boiler, rebuilt and guaranteed\$360.00

R. S. ARMSTRONG & BRO. CO.
Atlanta, Ga.

RAILS NEW & RELAYING ALL WEIGHTS

Let us know your needs. We may have material in stock near you.

WE BUY RAILS FIT TO RE-LAY

ROBINSON & ORR

Columbia Bldg., 248 Fourth Ave., Pittsburgh, Pa.
New Frogs and Switches at low prices.

RELAYING RAILS—SWITCHES

TRACK MATERIAL

THE PERRY BUXTON DOANE CO.

P. O. Box 5253 Boston, Mass.

Your ADVERTISEMENT

in these pages places your facilities before the leaders in manufacturing and industrial operations in the South and Southwest, creating wider markets for your products.

Advertising rates gladly submitted upon request

MANUFACTURERS RECORD
Baltimore Maryland

FOR SALE

P & H MODEL 206, GAS, CRAWLER DRAGLINE 45 FT. BOOM, FULL ENCLOSED STEEL CAB, ¾ YD. BUCKET.

Byers, 10 tons capacity, full revolving crawler steam crane, 40 ft. boom. 12 yd. Western, heavy duty steel beam type 2-way dump cars, 19 ft. beds; **NEW BODIES.**

The above completely rebuilt and we can offer at an unusual bargain.

Have large assortment of modern locomotives 5 to 100 tons, all types, rebuilt and ready. Steam and gas shovels, etc.

Southern Iron & Equipment Co.
ATLANTA GEORGIA

36" PORTABLE TRACK

25 lb. rails—7 steel ties per 15 ft. sections. Over ten miles, located Ocala, Fla. Also locomotives, cars, cranes and shovels.

Write us or have your local dealer do so.
EQUIPMENT CORPORATION OF AMERICA
1166 So. Washtenaw Ave., Chicago

STEEL BUILDING FRAME

60' wide, 180' long, 24' high. Also independent runway and 10 ton Niles A.C. Crane. Near Roanoke, Va. Excellent Condition, marked for re-erection. Quick shipment. Low price. Also splendid lot of Shepard A. C. Hoists, 1 to 6 tons.

N. B. PAYNE & CO.
25 Church St. N. Y. C.

Shovels or Cranes

FOR SALE

1—Factory rebuilt Lima 1¼ cu. yd. capacity. This machine can be equipped with either shovel, clamshell, dragline or drag shovel attachment. Very reasonably priced. Carries new machine guarantee. Located at Newark, N. J.

1—GENERAL ½-yd. combination shovel, backhoe, 2 buckets, and crane boom. Very good condition, located Long Island.

1—GA-2 Erie Gas Air Shovel. Fine condition and bargain. Located Newark, N. J.

1—Complete Shovel Attachment for Type "O" Thew. Also, attachment for Type B and B-2 Eries located in New Jersey. Decided bargains.

1—P & H 1¼ yd. Gas Shovel. Excellent condition, very attractive price. Located Newark, N. J.

1—Linn Tractor, 6 yd. capacity, with Waukesha Motor. Machine in very good condition. Priced to sell quickly. Located New York State.

1—Koehring ¾ yd. Shovel. Excellent condition throughout. Located Newark, N. J.

LIMA EXCAVATOR SALES AGENCY

Lima, O., Office: Eastern Offices and Warehouse,
Lima Trust Bldg., 317 Frelinghuysen Ave., Newark, N. J.
Tel. Main 4824 Tel. Waverly 2-0640

Wire or phone nearest office at our expense

SOUTHERN HIGHWAY REVIEW NUMBER

Issue of January 7, 1932

*Issued Annually Immediately Prior to the
AMERICAN ROAD BUILDERS SHOW AND CONVENTION
(Detroit, Mich., January 9 to 15, 1932)*

OUR Highway Review Number will summarize by states and projects the highway construction activities and plans for the sixteen Southern states. They will be published in a form not obtainable elsewhere.

We have consistently emphasized the need for stronger and thicker and wider highways to meet the growing demand made upon them by the use of heavily loaded trucks and great motorbuses.

Road machinery, equipment and material manufacturers, engineers and highway contractors have always shown their intense interest in this Highway Review Number. They retain it all through the year as a guide.

In gathering and reporting details of highway and bridge programs as they develop, we maintain continuous contacts with highway engineers, contractors, machinery and material manufacturers and distributors in the South and South-western states.

In larger volume than any other publication, we publish weekly the official proposals of the Southern-Southwestern states.

In the weekly Construction Department of the MANUFACTURERS RECORD and in the *Daily Construction Bulletin* of advance information, we publish more items under Roads and Bridges than under any other headings.

Every issue contacts with the sources of demand for everything needed in these road projects.

**Start off the new year with an attractive initial advertisement
in this Southern Highway Review Number and follow with a
regular schedule in the weekly issues thereafter.**

OUR REGULAR ADVERTISING RATES WILL APPLY TO THE
SOUTHERN HIGHWAY REVIEW NUMBER

2 Pages—\$252.00

1 Page—\$126.00

½ Page —\$64.50

\$25.00 for extra color (Red) per page.

Present advertisers can use extra space at their contract rate.

MANUFACTURERS RECORD

The South's Business Paper

Baltimore

-

-

-

-

Maryland

MEET US AT THE ROAD SHOW—BOOTH No. 103

We produce in quantities to meet your requirements

SAND and WASHED GRAVEL

QUICK shipments by rail from Baltimore and North East, Md. or in scow and barge lots. Truck or rail shipments from Baltimore, Md.

The Arundel Corporation

MAIN OFFICE: ARUNDEL BUILDING
BALTIMORE, MARYLAND

Branches: New York, Norfolk and Miami

**Crushed Stone
Mascot Chatts Roofing Gravel
Asphaltic Roadway Gravel
Asphalt Filler Dust**



AMERICAN LIMESTONE COMPANY
KNOXVILLE TENNESSEE

SAND—GRAVEL—BRICK FILTER GRAVEL

Washed Sand and Gravel for Concrete Roads and Buildings

Filter Gravel, all sizes—Building Bricks

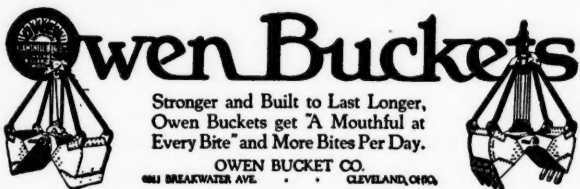
FRIEND & CO., INC. River St., Petersburg, Va.



for economy and permanence in Road Building and General Construction

WOODSTOCK SLAG CORP.

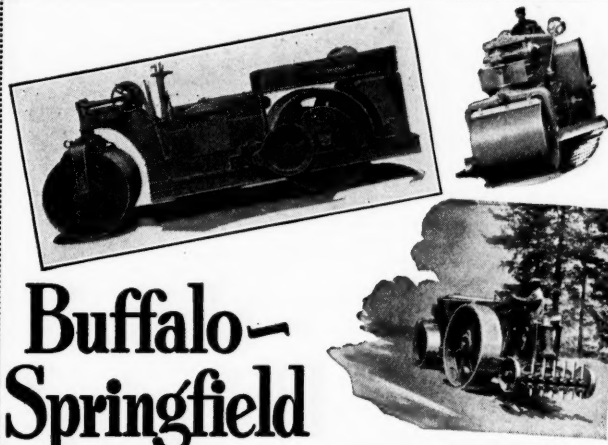
Southern Railway Bldg., Birmingham, Ala.



Stronger and Built to Last Longer, Owen Buckets get "A Mouthful at Every Bite" and More Bites Per Day.

OWEN BUCKET CO.
901 BREAKWATER AVE. CLEVELAND, OHIO

**IF YOU WANT TO GET—
Southern Business
Advertise in the
MANUFACTURERS RECORD**



Buffalo-Springfield ROLLERS

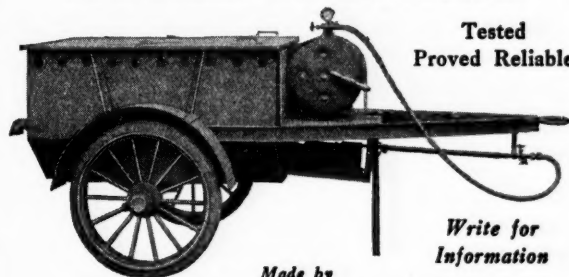
The widespread adoption of Buffalo-Springfield Rollers can mean only one thing—that the builders of our roads and streets consider them the most practical and the most dependable rollers on the market. It is the old adage "values will tell" reasserting itself.

All practical sizes, both steam and motor driven. Scarifiers and other special attachments when desired.

When in the market, investigate the Buffalo-Springfield. Write for illustrated booklet describing the entire line.

The Buffalo-Springfield Roller Co.
Springfield, Ohio

**MR. CONTRACTOR! MR. HIGHWAY ENGINEER!
YOU NEED THIS HEATER**



Tested
Proved Reliable

Write for
Information

Made by

The JOS. HONHORST COMPANY
1016-20 W Sixth St., CINCINNATI, O.

INDUSTRIAL CAR EQUIPMENT



THE ATLAS CAR & MANUFACTURING CO.
Cleveland, Ohio

**BUCYRUS
ERIE**

**BUCYRUS
MONIGHAN**

WALKING
DRAGLINE
EXCAVATORS

SHOVELS
CRANES
DRAGLINES
DREDGES

Reliability!

Bucyrus-Eries are cutting costs in every part of the world. All sizes, types and powers of excavators. Railway cranes and "Load-master."

Bucyrus-Erie Co.
South Milwaukee, Wisconsin

A FLORIDA FARM

will provide a good living for you and the family.

Of course the farmer must apply himself to the business of farming — plan intelligently — diversify his crops—raise chickens and hogs — keep a cow or two — grow fruits and other things that go with the makeup of a general farm.

It's a healthful outdoor life for all the family.

It's an occupation worth considering.

For literature—write

MODEL LAND COMPANY

Flagler System

St. Augustine, Florida

SULPHURIC ACID SUPERPHOSPHATE TRIPLE SUPERPHOSPHATE MANGANESE SULPHATE

Manufactured and Distributed by

THE DAVISON CHEMICAL CO.

Main Office, Baltimore Trust Bldg., Baltimore, Md.

Main Plant, Baltimore; Pyrites Deposits Cienfuegos District, Cuba; Phosphate Rock Plant, Southern Phosphate Corporation, Bartow, Florida.

Plants Handling Complete Fertilizers and Fertilizer Materials: Maryland 11; Virginia 9; Pennsylvania 10; Georgia 2; Ohio 2; North Carolina 11; South Carolina, Mississippi, Louisiana, Texas, Indiana, West Virginia, Tennessee, Connecticut and New Jersey 1 each.

OPPORTUNITIES

Industrial and Agricultural

The A. & W. P.—W. Ry. of Alabama and Georgia Railroads traverse a territory rich in material and potential resources. Attractive industrial sites. For information apply:

**Commercial and Agricultural
Dev. Dept.—Above Lines
Atlanta, Georgia**



A Change of Atmosphere for mental and physical recuperation

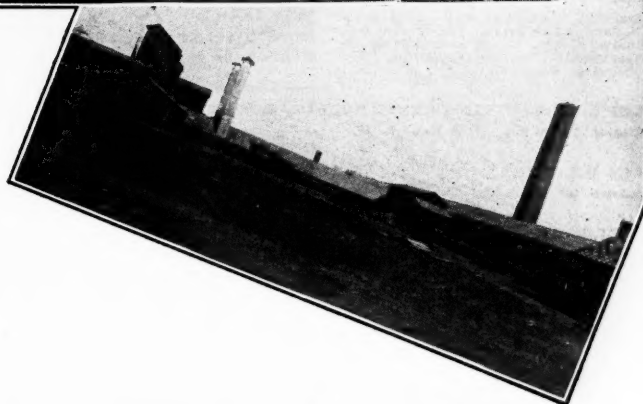
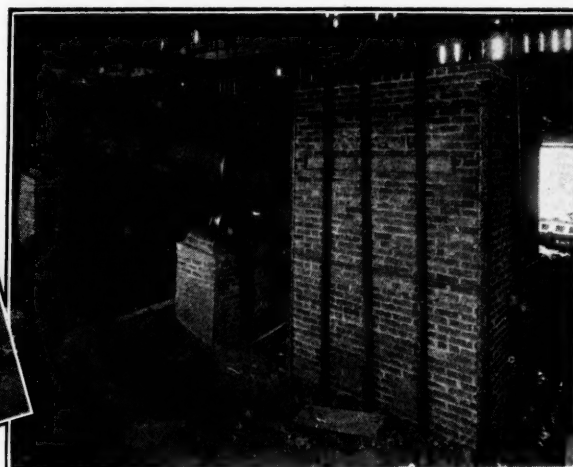
OF all the years recently, this is a time when business men need relaxation. Nearness to the great centers of population is one of the features that has made the sand hill country of North Carolina so popular. With dry bracing air; days abounding in sunlight, nature's great restorer and an azure sky that invites life in the open, this section possesses health-giving advantages.

Highland Pines Inn is noted for its homelike atmosphere and the comforts it provides. Two 18-hole golf courses, hunting and horseback riding through the pine woods of North Carolina are available to our guests.

HIGHLAND PINES INN

CREAMER & TURNER
Proprietors

Southern Pines, N. C.



Top, left: View of Kiln in B. M. Hood plant at Adairsville, Ga., manufacturing mediterranean tile. Top, right: Interior view same plant. Bottom: General exterior view of the Hood plant.

BURNING TILE *With Natural* GAS



In the ceramic industry, the advantages of natural gas fuel have been particularly obvious. The direct application of heat, as is necessary in the manufacture of brick, tile and kindred products, pointedly brings out the special qualities that make gas so valuable to this industry.

There is no sulphur or other chemicals or odors in natural gas that affect the manufacturing processes. In addition, the fuel mixture is easily regulated for an oxidizing atmosphere, important in obtaining desired coloring in ceramics.

No matter what your manufacturing process may be, natural gas in all probability will simplify your heating problems. The fuel mixture is easily regulated also for a neutral atmosphere or a reducing atmosphere as required for best results in heat treating iron and steel. For detailed information,

write to

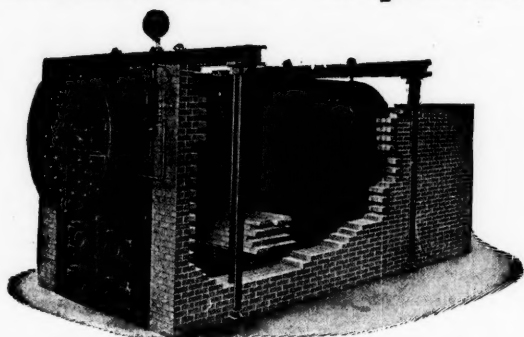
SOUTHERN NATURAL GAS

C O R P O R A T I O N

WATTS BUILDING
BIRMINGHAM, ALA



BOILERS for immediate shipment



WE carry in stock for immediate shipment sizes from 12 to 150 h.p. Working pressure of either 100-124 or 150 pounds.

Schofield Boilers are Built of Open Hearth Homogeneous Flange and Fire Box Steel Plate with a tensile strength of 55,000 lbs. of pressure per square inch of section.

All boilers tested to pressure of 50% in excess of requirement.

We also manufacture

PUMPS, ACID TANKS, DREDGE PIPE, INCINERATORS, ROTARY DRYERS, STEEL BUILDINGS, STEEL PLATE WORK, MUNICIPAL CASTINGS, GREY IRON CASTINGS, ENGINES, STEEL STORAGE TANKS, SEED AND GRAIN TANKS, ELEVATED WATER TANKS



J. S. Schofield's Sons Co., Inc.

Macon, Georgia, U. S. A.

WAY PAST THE DAYS OF THE OLD TIN CUP



Many vital improvements have been made in drinking methods, but, heading the list is the R-S Vertico-Slant Sanitary Fountain.

This fountain never feels the touch of contaminated mouths and lips. It prevents them from even coming close to the jet that spouts the water.

The Vertico-Slant with the water passing angularly from jet to mouth makes each drink a safe and sanitary one. Write for bulletin.

RUNDLE-SPENCE MFG. CO.
442 No. Fourth St., Milwaukee, Wisconsin

RUNDLE-SPENCE

LIPS CAN NOT TOUCH THE R-S NOZZLE



CHARLESTON DRY DOCK & MACHINE CO.

CHARLESTON, S. C.

Builders of All Welded Ships

MARINE AND STATIONARY BOILERS

Repairs to Steel and Wooden Vessels

1,500 and 800-ton Marine Railways

GRANITE

**WHITE
MOUNT AIRY**

THE NORTH CAROLINA GRANITE CORP'N.

Mount Airy, N. C.

BRICK—CHIMNEYS—CONCRETE

BOILER BRICKWORK

The Rust Engineering Co.

Engineers and Contractors

BIRMINGHAM, ALABAMA

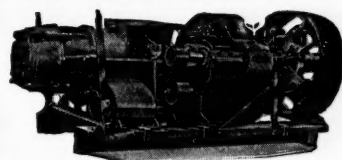
PITTSBURGH—WASHINGTON—NEW YORK—CHICAGO

CLAY WORKING MACHINERY

For Brick, Tile and Block, from smallest to largest capacity.

Write for catalogue.
Full line equipment.

J. C. STEELE & SONS
Statesville, N. C., U.S.A.



ROANOKE IRON & BRIDGE WORKS, Inc.

Structural and Ornamental Iron

Wrought Steel Fences

Steel Bridges

Jail Cells

Write for Estimates

ROANOKE, VA.

SPECIFY

KERLOW

Square and Triangular Mesh
FLOOR GRATINGS AND STAIR STEPS

The strongest and lightest
BRIDGE AND FLOOR SLABS (Monolithic)

Catalogue and Prices on request

KERLOW STEEL FLOORING COMPANY

STEEL 222-228 Culver Ave., Jersey City, N. J.

See Telephone book for representations

ELECTRIC STEEL CASTINGS

Weighing from 1 lb. to 500 lbs. each

Quantity Production A Specialty

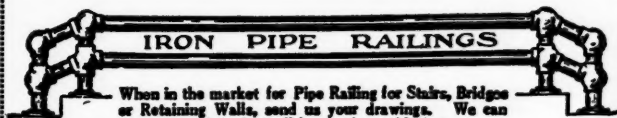
Nickel, Chrome and Other Alloy

Quick Delivery

Inquiries Solicited

CRUCIBLE STEEL CASTING COMPANY

LANSDOWNE, DELAWARE COUNTY, PA.



IRON PIPE RAILINGS

When in the market for Pipe Railing for Stairs, Bridges or Retaining Walls, send us your drawings. We can quote you prices that will be worth considering.

PIPE RAILING CONSTRUCTION CO., Long Island City, New York

Preserved Timber Saves Replacement Costs

Deep and uniform penetration of the preservative is a distinctive feature of all Eppinger & Russell Co. *pressure treated* lumber.

Wherever lumber and timber are used for floorings, ceilings, fencing, posts, etc., there is always danger of decay, dry rot and termite attack unless the wood is permanently preserved with ZMA or CREOSOTE *pressure applied*.

ZMA treated lumber is clean, odorless and free from all discoloration and can be painted or stained any color desired. Exceptionally useful for interior work.

A request will bring complete information.

EPPINGER & RUSSELL Co

13 PARK PLACE, NEW YORK CITY
Plants—Jacksonville, Fla., and Long Island City, N. Y.

CREOSOTED

PINE AND OAK

POLES - PILES - TIES - TIMBERS

TREATING PLANTS AND YARDS
BROWNVILLE, ALA.

LOUISVILLE, KY.

BROWN WOOD PRESERVING CO.
LOUISVILLE, KY.

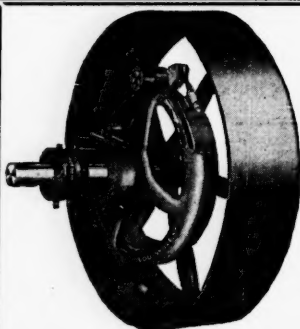
Creosoted Ties, Piling, Poles and Timbers

Creosote Oil

Docks for Ocean Vessels

American Creosote Works, Inc.
New Orleans, La.

Atlantic Creosoting Co., Inc.
Savannah, Ga. Norfolk, Va.



A Bulldog Grip

The asbestos-lined flexible band of a Caldwell Clutch seizes the friction ring with a bulldog grip and holds on until released by a slight tug at the operating lever.

In addition to dependable performance, a Caldwell Friction Clutch gives assurance of minimum clutch trouble because one screw adjusts it.

Send for Catalog

W. E. Caldwell Co., Incorporated
270 E. Brandeis St., Louisville, Ky.

Caldwell
FRICTION
CLUTCHES

CHAINS (High Speed Roller.)
Diamond Chain & Mfg. Co., Indianapolis.

—(Silent Drive.)
Diamond Chain & Mfg. Co., Indianapolis.

CHAIRS (Opera and Theatre.)
Andrews Co., A. H. Chicago, Ill.

CHEMICALS.
Davison Chemical Co., Baltimore, Md.
Grasselli Chemical Co., Inc., Birmingham.

CHEMISTS, CHEMICAL ENGINEERS (Analytical.)
Froehling & Robertson, Inc., Richmond, Va.

Hunt Co., Robert W., Chicago, Ill.
Longdale Laboratories, Inc., Richmond, Va.
Meigs, Bassett & Slaughter, Phila., Pa.
Moss, Jr., W. Wade, Columbus, Ga.
Picard Laboratories, Birmingham, Ala.
Pittsburgh Testing Laboratories, Pittsburgh, Pa.
Southwestern Laboratories, Fort Worth, Tex.
Stillman & Van Sielen, New York.

—(Consulting, Paper Industry.)
Froehling & Robertson, Inc., Richmond, Va.

CHIMNEYS (Concrete.)
Rust Engineering Co., Birmingham, Ala.

—(Radial Brick.)
Rust Engineering Co., Birmingham, Ala.

CHLORIDE ACCUMULATOR.
Electric Storage Battery Co., Phila., Pa.

CHUTES (Mail.)
Cutler Mail Chute Co., Rochester, N. Y.

CLUTCHES (Friction.)
Caldwell Co., Inc., W. E., Louisville, Ky.

COAL (Bituminous.)
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—and Ash-Handling Mch.
Northwest Engineering Co., Chicago.

—Jigs.
Steward Machine Co., Chas. C., Birmingham, Ala.

—Tipples.
American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.

—Washers.
Steward Machine Co., Chas. C., Birmingham, Ala.

COCKS (Service.)
Morse Nordstrom Valve Co., San Francisco, Calif.

COKE.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

COLUMNS (Cast Iron.)
U. S. Pipe & Fdy. Co., Burlington, N.J.

CONCRETE Construction (Reinforced.)
Cement Gun Construction Co., Chicago.
Rust Engineering Co., Birmingham, Ala.

—Mixers.
Dunning & Boschart Press Co., Inc., Syracuse, N. Y.

CONDENSERS.
Manistee Iron Works Co., Manistee, Mich.

CONDUITS (Electric, Interior, Steel.)
Western Electric Co., New York, N. Y.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

CONTRACTORS (Bridge.)
Hardaway Contracting Co., Columbus, Ga.
Kansas City Bridge Co., Kansas City, Mo.
Snare Corp., Frederick, New York.

—(Drainage and Dredging.)
Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York.

—Drilling.
Kennedy-Biegger Drilling Co., New York City.
Mott Core Drilling Co., Huntington, W. Va.
Pennsylvania Drilling Co., Pittsburgh, Pa.
Southern Drilling Co., Saltville, Va.
Sprague & Hemwood, Inc., Scranton, Pa.

—(Electrical.)
Virginia Engineering Co., Inc., Newport News, Va.
Walker Electrical Co., Atlanta, Ga.
Warner Service Co., Knoxville, Tenn.
Webb Electric Co., Anderson, S. C.

—(Foundations and Dams.)
Snare Corp., Frederick, New York, N. Y.

—(General.)
Blair, Algernon, Montgomery, Ala.
Burkes, Inc., J. V. & E. T., New Orleans.
Cornell Young Co., Inc., Macon, Ga.
Cowper Co., Inc., John W., Washington, D. C.
Fiske-Carter Constr. Co., Greenville, S. C.
Saville, Inc., Allen J., Richmond, Va.
Smallman-MacQueen Construction Co., Birmingham.
Snare Corp., Frederick, New York, N. Y.
Tucker & Laxton, Charlotte, N. C.
White Engineering Corp., J. G., New York.

—(Industrial Buildings.)
Blair, Algernon, Montgomery, Ala.
Cowper Co., Inc., John W., Washington, D. C.
Fiske-Carter Constr. Co., Greenville, S. C.
Lockwood Greene Engrs., Inc., Boston.
Smallman-MacQueen Construction Co., Birmingham.
Snare Corp., Frederick, New York, N. Y.
Tucker & Laxton, Charlotte, N. C.
Virginia Engineering Co., Inc., Newport News, Va.
White Engineering Corp., J. G., New York.

—(Mill Village.)
Hornbuckle Contracting Co., Atlanta, Ga.

—(Power Piping.)
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Poe Piping & Heating Co., Greenville, S. C.
Power Piping Co., Pittsburgh, Pa.

—(Power Plants.)
Snare Corp., Frederick, New York, N. Y.
Virginia Engineering Co., Inc., Newport News, Va.

—(Railroad.)
Cornell-Young Co., Inc., Macon, Ga.

—(Reinforced Concrete.)
Blair, Algernon, Montgomery, Ala.
Cement Gun Construction Co., Chicago.
Gunite Conc. & Constr. Co., Kansas City.
Tucker & Laxton, Charlotte, N. C.

—(Road and Street Paving.)
Fiske-Carter Constr. Co., Greenville, S. C.
Hornbuckle Contracting Co., Atlanta, Ga.
McCrary Co., J. B., Atlanta, Ga.
Virginia Engineering Co., Inc., Newport News, Va.

—(Sewerage and Waterworks.)
Hardaway Contracting Co., Columbus, Ga.
Hornbuckle Contracting Co., Atlanta, Ga.
McCrary Co., The J. B., Atlanta, Ga.
Snare Corp., Frederick, New York, N. Y.
Tucker & Laxton, Charlotte, N. C.
Virginia Engineering Co., Inc., Newport News, Va.

—(Sprinkler System.)
Poe Piping & Heating Co., Greenville, S. C.

—Machinery and Supplies.
(Used.)
Lima Excavator Sales Agency, Lima, Ohio.
Machinery Record, Richmond, Va.
Marine Metal & Supply Co., New York.

CONTRACT WORK WANTED.
(See following classifications:)

Castings.
Foundries and Machine Shops.
Machinery (Special.)
Ornamental Iron Work.
Patterns.
Sheet Metal Work.
Structural Steel and Iron.

CONVEYING AND ELEVATING MACHINERY.

Universal Crusher Co., Cedar Rapids, Ia.

COOLING AND HEATING UNITS (Fan.)

Niagara Blower Co., New York, N. Y.

COTTON GIN MACHINERY.

Continental Gin Co., Birmingham, Ala.

COUPLINGS.

Goldens' Fdy. & Mch. Co., Columbus, Ga.
—(Flexible.)
Diamond Chain & Mfg. Co., Indianapolis, Ind.

CRANES.

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Cantilever, Gantry.)

Bedford Foundry & Machine Co., Bedford, Ind.

—(Crawler.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Crawling Tractor.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Electric Traveling.)

Bedford Foundry & Machine Co., Bedford, Ind.

—(Full Circle Steam and Electric.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Gasoline.)

Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Locomotive.)

Bucyrus-Erie Co., So. Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

—(Material Handling.)

Bay City Shovels, Inc., Bay City, Mich.
Industrial Brownhoist Corp., Cleveland, O.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Universal Crane Co., Lorain, Ohio.

CRAWLERS (Tractor.)

Trackson Co., Milwaukee, Wis.

CREOSOTED MATERIALS.

Amer. Creosote Wks., Inc., New Orleans.
Atlantic Creosoting Co., Norfolk, Va.

CREOSOTED TIMBER.

Ayer & Lord Tie Co., Chicago, Ill.
Brown Wood Preserving Co., Louisville, Ky.

CREOSOTE OIL.

Amer. Creosote Wks., Inc., New Orleans.
Ayer & Lord Tie Co., Inc., Chicago.

CREOSOTING (Wood Material.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.
Brown Wood Preserving Co., Louisville, Ky.
Eppinger & Russell Co., New York, N. Y.
Gulf States Creos. Co., Hattiesburg, Miss.

CROSS-ARMS (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Inc., Chicago.
Eppinger & Russell Co., New York, N. Y.

CROSS-TIES (Creosoted.)

Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Inc., Chicago.
Eppinger & Russell Co., New York, N. Y.

CRUSHED STONE (Road Concrete and Ballast.)

American Limestone Co., Knoxville, Tenn.
Baxley & Co., W. W., Roanoke, Va.

CRUSHERS (Coal and Coke.)

Fuller Lehigh Co., Fullerton, Pa.
Steward Machine Co., Chas. C., Birmingham, Ala.

—(Rock.)

Gründler Crusher & Pulverizer Co., St. Louis, Mo.
Universal Crusher Co., Cedar Rapids, Ia.

CRUSHING and Pulverizing Machinery.

Allis Chalmers Mfg. Co., Milwaukee, Wis.
Fuller Lehigh Co., Fullerton, Pa.
Gründler Crusher & Pulverizer Co., St. Louis, Mo.
Universal Crusher Co., Cedar Rapids, Ia.

CULTIVATORS (Mechanical.)

Federal Farm Equipment Co., Jacksonville, Fla.

CULVERT PIPE (Cast Iron.)

Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Assn., Chicago.
U. S. Pipe & Foundry Co., Burlington, N. J.

—(Corrugated Metal.)

American Sheet & Tin Plate Co., Pittsburgh, Pa.

CYLINDERS (Compressed Air, Gas.)

National Tube Co., Pittsburgh, Pa.

—(Creosoting.)

Alco Products, Inc., New York, N. Y.

DESKS (School.)

Andrews Co., A. H., Chicago, Ill.

DITCHING MACHINERY.

Bay City Shovels, Inc., Bay City, Mich.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

DOORS (Fire.)

Merchant & Evans Co., Philadelphia, Pa.

—(Fireproof, Air Chamber.)

Wilson Corp., The J. G., New York.

—(Kalamain and Hollow Metal.)

Cincinnati Mfg. Co., Cincinnati, O.

—(Rolling, Steel and Wood.)

Wilson Corp., The J. G., New York.

—(Vault.)

York Safe & Lock Co., York, Penna.

DRAFTSMEN'S SUPPLIES.

Weber Co., Inc., F., Philadelphia, Pa.

DRAGLINE EXCAVATORS.

Bucyrus-Erie Co., So. Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.
Thew Shovel Co., The, Lorain, Ohio.

DREDGES (Dipper, Elevator, Hydraulic.)

Bay City Shovels, Inc., Bay City, Mich.
Bucyrus-Erie Co., So. Milwaukee, Wis.

DREDGING (River and Harbor Improvement.)

Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York

DRILLS (Oil and Artesian Well.)

Virginia Machinery & Well Co., Inc., Richmond, Va.

DRINKING FOUNTAINS.

Bundel-Spence Mfg. Co., Milwaukee, Wis.

DROP-FORGING MACHINERY.

Bliss Co., E. W., Brooklyn, N. Y.

DRYERS (Gravel and Sand.)

Ripley Fdy. & Mch. Co., Ripley, Ohio.

DRYING MACHINERY.

Chicago Bridge & Iron Wks., Birmingham

DUSTPROOFING (Concrete.)

Bonsaborn Sons, Inc., L., New York.

DYNAMITE (Industrial and Agricultural.)

Du Pont De Nemours & Co., Inc., E. I. Wilmington, Del.

ECONOMIZERS (Fuel.)

Babcock & Wilcox Co., New York.

ECONOMISTS (Administrative.)

Brookmire Economic Service, New York

ELECTRICAL Instruments and Supplies.

General Electric Co., Schenectady, N. Y.
Western Electric Co., New York City.

—Machinery (Generators, Motors, etc., New.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Partridge, Arthur S., St. Louis, Mo.
Rockford Power Machy. Co., Rockford, Ill.

—Machinery (Generators, Motors, etc., Used.)

Delta Equipment Co., Philadelphia, Pa.
Electric Service Co., Cincinnati, Ohio.
General Electric Co., Schenectady, N. Y.
O'Brien Machinery Co., The, Phila., Pa.
Reading Engineering Wks., Reading, Pa.
Rockford Power Machy. Co., Rockford, Ill.

—Machinery Repairing (Motors, Generators, etc.)

Electric Service Co., Cincinnati, Ohio.

Mundt Perforated Metals

Any metal, any size, any perforation, for any use. Large stock available for urgent need.

43 years' experience enables us to give superior service. MUNDT'S customers are always satisfied.

CHARLES MUNDT & SONS

490 Johnston Avenue, Jersey City, N. J.

GRUENDLER Roller Bearing All Steel Fine Reduction CRUSHER

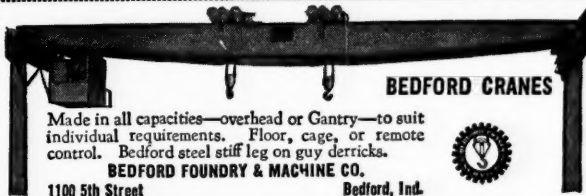
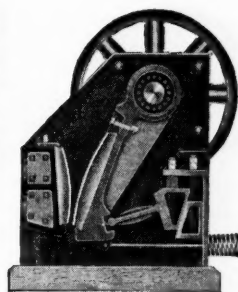
for

QUARRIES
ROAD MAINTENANCE
CONSTRUCTION WORK
Stationary and Portable

Also manufacturers of complete Fertilizer Grinding and Mixing Machinery
—Gravel Screening and Washing Plants—Elevating and Conveying Machinery.

GRUENDLER

Crusher and Pulverizer Co.
2915 N. Market St., ST. LOUIS, MO.
Dept. M.



Made in all capacities—overhead or Gantry—to suit individual requirements. Floor, cage, or remote control. Bedford steel stiff leg on guy derricks.

BEDFORD FOUNDRY & MACHINE CO.

1100 5th Street

Bedford, Ind.

GUNITE METHOD

Specialists in
CEMENT GUN CONSTRUCTION

Contracts Executed Anywhere

GUNITE CONCRETE AND CONSTRUCTION CO.

BARCLAY A. GREENE, President

1301 Woodswether Road, Kansas City, Mo.

BRANCH OFFICES: St. Louis, Mo.; Chicago, Ill.; Birmingham, Ala.; Dallas, Tex.; New Orleans, La.; Atlanta, Ga.

**SCHOOL DESKS**

H. H. Andrews & Co.
CHICAGO

107 So. Wabash Avenue

ALLIS-CHALMERS MFG. CO.

MILWAUKEE, WIS., U. S. A.

DESIGNERS AND BUILDERS OF

Steam Turbines, Electrical Machinery, Steam, Gas and Oil Engines, Centrifugal Pumps, Crushing & Cement Machinery, Etc.

Mountain State Steel Foundries, Parkersburg, W. Va.
Richmond Foundry & Mfg. Co., Richmond, Va.

FOUNDRY Equipment and Supplies.
Hill & Griffith Co., Cincinnati, O.

—Facing (Tale and Soapstone.)
Hill & Griffith Co., Cincinnati, O.

FURNACES (Water-Cooled.)
Fuller Lehigh Co., Fullerton, Pa.

GALVANIZED Material.
Bessemer Galvanizing Works, Birmingham, Ala.
Cattle & Bros., Jos. P., Philadelphia, Pa.
Enterprise Galvanizing Co., Phila., Pa.
—Steel and Iron.
American Rolling Mill Co., Middletown, O.
American Sheet & Tin Plate Co., Pittsburgh, Pa.

GALVANIZING (Hot Dip.)
Bessemer Galvanizing Works, Birmingham, Ala.
Cattle & Bros., Jos. P., Philadelphia, Pa.
Enterprise Galvanizing Co., Phila., Pa.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

GAS HOLDERS.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.

—Producers
Wood & Co., R. D., Philadelphia, Pa.

GASOLINE and KEROSENE.
Gulf Refining Co., Pittsburgh, Pa.

GATES (Waterworks—Irrigation, etc.)
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

GEARS.
DeLaval Steam Turbine Co., Trenton, N.J.
Harle Gear & Machine Co., Phila., Pa.
General Electric Co., Schenectady, N. Y.
—(Worm Reduction.)
DeLaval Steam Turbine Co., Trenton, N.J.

GENERATORS, MOTORS (New.)
General Electric Co., Schenectady, N. Y.
—(Used.)
O'Brien Machinery Co., Phila., Pa.

GEOLOGISTS. (See Engineers Geological.)

GLASS (Art.)
Hires Turner Glass Co., Philadelphia, Pa.
—(Plate.)
Hires Turner Glass Co., Philadelphia, Pa.
—(Window.)
Hires Turner Glass Co., Philadelphia, Pa.
Pittsburgh Plate Glass Co., Pittsburgh.
—(Wire.)
Hires Turner Glass Co., Philadelphia, Pa.

GRADERS (Elevating.)
Caterpillar Tractor Co., Peoria, Ill.

GRANITE (Building and Monumental.)
North Carolina Granite Corp., The Mount Airy, N. C.

GRATES and Grate Bars.
Schofield's Sons Co., J. S., Macon, Ga.

GRATING (Area, Flooring, Sidewalk.)
Blaw-Knox Co., Pittsburgh, Pa.
Hendrick Mfg. Co., Carbondale, Pa.
Kerlow Steel Flooring Co., Jersey City, N. J.

GRAVEL (Roofing and Road.)
American Limestone Co., Knoxville, Tenn.
Arundel Corp., The, Baltimore, Md.
Bentley & Co., W. W., Roanoke, Va.
Friend & Co., Inc., Petersburg, Va.
Georgia Sand & Gravel Co., Augusta, Ga.

GREASE Cups.
Lunkenheimer Co., The, Cincinnati, O.

GRILLES (Brass, Bronze, Steel, etc.)
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.

GRINDERS WHEELS.
Carborundum Co., Niagara Falls, N. Y.

GUARD RAIL (Road.)
National Traffic Guard Co., Atlanta.
Robertson Steel & Iron Co., W. F., Cincinnati, O.

GUNITE CONSTRUCTION.
Cement Gun Construction Co., Chicago.
Gunite Conc. & Constr. Co., Kansas City.
Gunite Constr. Co., New York City.

GUNPOWDER.
Du Pont de Nemours & Co., Inc., E. I., Wilmington, Del.

GUNS (Hydraulic.)
Georgia Iron Works, Augusta, Ga.

HANGARS (Airplane.)
Blaw-Knox Co., Pittsburgh, Pa.
Ingalls Iron Works, Birmingham, Ala.

HARBOR IMPROVEMENTS.
Arundel Corp., Baltimore, Md.
Atlantic, Gulf & Pacific Co., New York.

HEATERS (Asphalt.)
Honhorst Co., Jos., Cincinnati, O.

HEAT EXCHANGERS.
Ake Products, Inc., New York, N. Y.

HEATING Apparatus (Engineers and Contractors.)
Foe Piping & Heating Co., Greenville, S. C.

HOISTS (Gasoline.)
Dake Engine Co., Grand Haven, Mich.

—(Steam.)
Dake Engine Co., Grand Haven, Mich.

HOPPERS (Aggregate, Measuring and Weighing.)
Blaw-Knox Co., Pittsburgh, Pa.

HOTELS.
Southern Hotel, The, Baltimore, Md.

HUMIDIFYING AND DRYING EQUIPMENT.
Niagara Blower Co., New York, N. Y.

HYDRANTS (Fire.)
Ladlow Valve Mfg. Co., The, Troy, N. Y.
Myers & Bros. Co., The, F. E., Ashland, O.
Wood & Co., R. D., Philadelphia, Pa.

HYDRO - ELECTRIC POWER COMPANIES (Offering Industrial and Commercial Opportunities.)
Crisp County Power Commission, Cordele, Ga.
Texas Power & Light Co., Dallas, Texas.

INCINERATORS.
Brooke-Fisher Co., Atlanta, Ga.
D-N Corporation, Winston-Salem, N. C.
Geder, Joseph, Chicago, Ill.

INCORPORATORS.
Delaware Registration Trust Co., Wilmington, Del.

INSULATING BOARD.
United Cork Companies, Lyndhurst, N. J.

—Materials.
General Electric Co., Schenectady, N. Y.

—Quilt.
Cabot, Inc., Samuel, Boston, Mass.

INVESTMENT SECURITIES.
Electric Bond & Share Co., New York.
Hanchett Bond Co., Inc., The, Chicago, Ill.
Nureon & Co., John, Chicago.
Provident Savings Bank & Trust Co., Cincinnati, Ohio.

IRON.
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.

—(Ingot, For Culverts, etc.)
American Rolling Mill Co., Middletown, O.

JAIL CELLS.
Roanoke Iron & Bridge Wks., Roanoke, Va.

JOINTS (Pipe.)
Leadite Co., Philadelphia, Pa.



"KNOBBYette"
REG. U.S. PAT. OFF.

The
New Lightweight
FLOOR PLATE

Non - skid, strong,
scientifically designed.
Used where the
heavier "KNOBBY"
plate is not required.

Send for sample

CENTRAL IRON & STEEL Co.
HARRISBURG, PENNA.

UNDERWRITERS'
LABORATORIES
INSPECTED \$A-443



MILLER FLUSH-TANK SIPHONS
SIMPLE, RELIABLE, AUTOMATIC
Also Sewage-Disposal Apparatus, Automatic Sewage Ejectors,
Convertible Diaphragm-Plunger Pumps, Sewer Jointing
Compounds.

PACIFIC FLUSH-TANK CO.
Write nearest office for catalog interested in.
4241 Ravenswood Avenue 136 Liberty Street
CHICAGO NEW YORK

AMERICAN ELEVATORS
PASSENGER AND FREIGHT
AMERICAN
ELEVATOR and MACHINE CO., Inc.
Established in 1898
LOUISVILLE, KENTUCKY

Manufacturers Of

ELECTRIC AND HAND POWER ELEVATORS FREIGHT AND PASSENGER

DUMB WAITERS

MILLNER COMPANY
St. Louis, Mo.

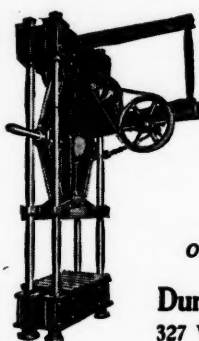


CEMENT-GUN CONSTRUCTION CO.
GUNCRETE

16 years experience placing sand
and cement mortar with com-
pressed air. Call our Engineering
or Contracting Department for
service.

537 S. Dearborn St. Oliver Building Woolworth Building
CHICAGO PITTSBURGH NEW YORK

- KETTLES (Pavers and Roofers.)**
Honhorst Co., Jos., Cincinnati, O.
- KILNS (Cement.)**
Alco Products, Inc., New York, N. Y.
- LADDERS (Rolling.)**
Myers & Bro. Co., The F. E., Ashland, O.
- LAMPS (Incandescent.)**
Western Electric Co., New York City.
Westinghouse Lamp Co., New York City.
- LANDSCAPE GARDENERS.**
Howard-Hickory Co., Hickory, N. C.
- LATHES.**
Sebastian Lathes Co., Cincinnati, Ohio.
- LIGHTING (Factory and Mill.)**
Westinghouse Lamp Co., New York City.
—(Fixtures (Electric).)
Western Electric Co., New York City.
Westinghouse Lamp Co., New York City.
- LININGS (Flue, Fire Clay.)**
Lee Clay Products Co., Clearfield, Ky.
Owensboro Sewer Pipe Co., Owensboro, Ky.
—(Tube Mill.)
Fuller Lehigh Co., Fullerton, Pa.
- LINOLEUM (BattleShip, Embossed Inlaid, Inlaid, Jasper.)**
Congoleum-Nairn Inc., Kearny, N. J.
- LITHOGRAPHERS and ENGRAVERS.**
Smith & Son Co., Oscar T., Baltimore, Md.
Young & Selden Co., Baltimore, Md.
- LOADING and UNLOADING MACHINERY (Portable.)**
Northwest Engineering Co., Chicago, Ill.
- LOCOMOTIVES (Compressed Air.)**
Porter Co., H. K., Pittsburgh, Pa.
—(Fireless Stored Steam.)
Porter Co., H. K., Pittsburgh, Pa.
—(Gasoline.)
Porter Co., H. K., Pittsburgh, Pa.
Whitcomb Locomotive Co., Rochelle, Ill.
—(Industrial.)
Porter Co., H. K., Pittsburgh, Pa.
Southern Iron & Equipment Co., Atlanta.
Whitcomb Locomotive Co., Rochelle, Ill.
—(Mining.)
Porter Co., H. K., Pittsburgh, Pa.
Whitcomb Locomotive Co., Rochelle, Ill.
—(Railway.)
Porter Co., H. K., Pittsburgh, Pa.
Southern Iron & Equipment Co., Atlanta.
Whitcomb Locomotive Co., Rochelle, Ill.
- LUBRICANTS.**
Gulf Refining Co., Pittsburgh, Pa.
- LUBRICATORS (Force Feed.)**
Lunkenheimer Co., The, Cincinnati, O.
- LUMBER (Ceiling, Flooring, Siding.)**
Jackson Lumber Co., Lockhart, Ala.
—(Creosoted.)
Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Inc., Chicago.
Eppinger & Russell Co., New York, N. Y.
Gulf States Creos. Co., Hattiesburg, Miss.
—(Hardwoods, Cypress, etc.)
Reynolds Bros. Lbr. Co., Albany, Ga.
—(Heavy Construction, Pitch, Pine, etc.)
Reynolds Bros. Lbr. Co., Albany, Ga.
- MACHINERY (Special.)**
Bliss Co., E. W., Brooklyn, N. Y.
Earle Gear & Machine Co., Phila., Pa.
General Machine Works, York, Pa.
Gerding Bros., Cincinnati, O.
—and Supplies (New and Used.)
Cincinnati Mchry. & Supply Co., Cincinnati, O.
Electric Service Co., Cincinnati, Ohio.
Machinery Record, Richmond, Va.
Marine Metal & Supply Co., New York.
O'Brien Machinery Co., The, Phila., Pa.
Partridge Arthur S., St. Louis, Mo.
Reading Engineering Wks., Reading, Pa.
- MACHINE TOOLS.**
Sebastian Lathes Co., Cincinnati, Ohio.
—(Used.)
Delta Equipment Co., Philadelphia, Pa.
O'Brien Machinery Co., Philadelphia, Pa.
- MAIL CHUTES.**
Cutler Mail Chute Co., Rochester, N. Y.
- MARBLE (Producers and Manufacturers.)**
Georgia Marble Co., The, Taz., Ga.
- METAL-Cutting Machinery.**
Earle Gear & Machine Co., Phila., Pa.
—Working Machinery.
Bliss Co., E. W., Brooklyn, N. Y.
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.
- MILL MACHINERY and SUPPLIES.**
Lombard Iron Works & Supply Co., Augusta, Ga.
- MIXERS (Hot.)**
Kochring Co., Milwaukee, Wis.
—(Mortar.)
Chain Belt Co., Milwaukee, Wis.
Jaeger Machine Co., Columbus, Ohio.
—(Plaster.)
Chain Belt Co., Milwaukee, Wis.
Dunning & Boschert Press Co., Syracuse, N. Y.
Jaeger Machine Co., Columbus, Ohio.
- MOTORS (Electric.)**
Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Armstrong & Bro. Co., R. S. Atlanta, Ga.
Fairbanks, Morse & Co., Chicago, Ill.
General Electric Co., Schenectady, N. Y.
Western Electric Co., New York City.
- MOTOR TRUCKS.**
International Harvester Co. of America, Inc., Chicago, Ill.
- NAILS (Cut.)**
Reading Iron Co., Reading, Pa.
—and Spikes.
American Steel & Wire Co., Balto., Md.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngstown, Ohio.
- NATURAL GAS COMPANIES.**
(Offering Industrial and Commercial Opportunities.)
Southern Natural Gas Corp., Birmingham.
- NURSEYMEN.**
Howard-Hickory Co., Hickory, N. C.
- NUTS (Cold Punched.)**
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Russell, Burdall & Ward Bolt & Nut Co., Port Chester, N. Y.
- OIL (Fuel and Gas.)**
Gulf Refining Co., Pittsburgh, Pa.
—Cups.
Lunkenheimer Co., The, Cincinnati, O.
- ORE-WASHING MACHINERY.**
Georgia Iron Works, Augusta, Ga.
- ORNAMENTAL Bronze Work.**
Heath Co., J. S., Waukegan, Ill.
—Iron Work.
Austin Bros. Bridge Co., Atlanta, Ga.
Roanoke Iron & Bridge Wks., Roanoke, Va.
Snead Architectural Iron Works, Louisville, Ky.
—Metal Work. (Bronze, Iron, Steel, etc.)
Cincinnati Mfg. Co., Cincinnati, O.
- PAINT (Mill White, for Interior.)**
Sonneborn Sons, Inc., L., New York.
—(Preservative.)
Cabot, Inc., Samuel, Boston, Mass.
- PANELBOARDS.**
Adam Electric Co., Frank, St. Louis.
- PARTITIONS (Sectionfold, Rolling, Wood.)**
Wilson Corp., The, J. G., New York.
- PATENT ATTORNEYS.**
Buck, Sterling P., Washington, D. C.
Coleman, Watson E., Washington, D. C.
Eaton, Paul E., Charlotte, N. C.
Sarnett, Edward C., Washington, D. C.
Seymour & Bright, Washington, D. C.
- PATTERNS (Drawing, etc.)**
Hess Pattern Co., A. W., Atlanta, Ga.
- PAVING Blocks (Creosoted Wood.)**
American Creosote Works, New Orleans.
—Brick.
National Paving Brick Assn., Washington, D. C.
—Plant (Asphalt.)
Simplicity System Co., Chattanooga, Tenn.
- PENSTOCKS.**
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Smith Co., S. Morgan, York, Pa.
- PERFORATED METAL.**
Chicago Perforating Co., Chicago, Ill.
Erdle Perforating Co., Rochester, N. Y.
Harrington & King Perf. Co., Chicago.
Hendrick Mfg. Co., Carbondale, Pa.
Manhattan Perforated Metal Co., Inc., Long Island City, N. Y.
Mundt & Sons, Charles, Jersey City, N. J.
- PETROLEUM REFINERS.**
Gulf Refining Co., Pittsburgh, Pa.
- PHOSPHATE ACID.**
Davison Chemical Co., Baltimore, Md.
- PIG-IRON.**
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
- PILING (Creosoted.)**
Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Inc., Chicago.
—(Steel Sheet.)
Carnegie Steel Co., Pittsburgh, Pa.
Hyman-Michaels Co., Chicago, Ill.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
—(Yellow Pine.)
Jackson Lumber Co., Lockhart, Ala.
- PILLOW BLOCKS.**
Goldens' Fdry. & Mch. Co., Columbus, Ga.
- PIPE.**
Albert & Davidson Pipe Corp., Brooklyn, N. Y.
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.
Birmingham Boiler & Engr. Co., Birmingham, Ala.
Central Pipe & Supply Co., Charleston, W. Va.
Greenspon's Sons Iron & Steel Co., St. Louis, Mo.
Hudson Pipe & Supply Co., Bayonne, N. J.
Maryland Pipe & Steel Corp., Baltimore, Md.
National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.
—(Cast Iron.)
Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Assn., Chicago.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
U. S. Pipe & Fdry. Co., Burlington, N. J.
—(Hammer-Welded.)
National Tube Co., Pittsburgh, Pa.
—(Iron and Steel.)
American Rolling Mill Co., Middletown.
—(Second-Hand.)
Albert & Davidson Pipe Corp., Brooklyn, N. Y.
Albert Pipe Sup. Co., Inc., Brooklyn, N. Y.
Central Pipe & Sup. Co., Charleston, W. Va.
Greenpoint Iron & Pipe Co., Inc., Brooklyn, N. Y.
Hudson Pipe & Supply Co., Bayonne, N. J.
Machinery Record, Richmond, Va.
Marine Metal & Supply Co., New York.
Maryland Pipe & Steel Corp., Baltimore, Md.
—(Spiral Riveted.)
Taylor Forge & Pipe Wks., Chicago, Ill.
—(Spiral Welded.)
American Rolling Mill Co., Middletown.
—(Steel.)
Bethlehem Steel Co., Bethlehem, Pa.
Chicago Bridge & Iron Wks., Birmingham.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
National Tube Co., Pittsburgh, Pa.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.
Youngstown Sheet & Tube Co., Youngstown, Ohio.
- (Steel, Large Diameter.)
Alco Products, Inc., New York, N. Y.
- (Wrought Iron.)
Reading Iron Co., Reading, Pa.
- Covering (Cork.)
United Cork Companies, Lyndhurst, N. J.
- Fittings.
Amer. Cast Iron Pipe Co., Birmingham.
Georgia Iron Works, Augusta, Ga.
- Unions and Joints.
Dart Mfg. Co., E. M., Providence, R. I.
- Systems (Industrial.)
Moore Pipe & Sprinkler Co., Jacksonville, Fla.
Pittsburgh Piping & Equip. Co., Pittsburgh, Pa.
Power Piping Co., Pittsburgh, Pa.
- PLATES (Steel.)**
American Rolling Mill Co., Middletown.
Bethlehem Steel Co., Bethlehem, Pa.
Carnegie Steel Co., Pittsburgh, Pa.
Central Iron & Steel Co., Harrisburg, Pa.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Gulf States Steel Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Tennessee Coal, Iron & Railroad Co., Birmingham.
- PLOWS (Mechanical.)**
Federal Farm Equipment Co., Jacksonville, Fla.
- POLES (Creosoted.)**
Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.
Atlantic Creosoting Co., Norfolk, Va.
Ayer & Lord Tie Co., Inc., Chicago.
Brown Wood Preserving Co., Louisville, Ky.
—(Tubular, Steel.)
Bessemer Galvanizing Works, Birmingham, Ala.
National Tube Co., Pittsburgh, Pa.
—(Yellow Pine.)
Jackson Lumber Co., Lockhart, Ala.
- POLISHING MACHINERY.**
(Wheels, Blocks.)
Carborundum Co., Niagara Falls, N. Y.
- POSTS, (Cast Iron, Railway and Highway.)**
U. S. Pipe & Foundry Co., Burlington, N. J.
- POWER TRANSMISSION MACHINERY.**
Diamond Chain & Mfg. Co., Indianapolis.
Goldens' Fdry. & Mch. Co., Columbus, Ga.
Schofield's Sons Co., J. S., Macon, Ga.
- PRESSES, (Baling, Cottonseed Oil, Hydraulic and Power.)**
Dunning & Boschert Press Co., Inc., Syracuse, N. Y.
Ripley Foundry & Machine Co., Ripley, O.
- (Metal Stamping.)
Bliss Co., E. W., Brooklyn, N. Y.
- PRINTERS (Book, Catalog, Job.)**
Smith & Son Co., Oscar T., Baltimore, Md.
Young & Selden Co., Baltimore, Md.
- PRODUCER (Gas Machines.)**
Wood & Co., B. D., Phila., Pa.
- PULLEYS (Friction Clutch.)**
Caldwell Co., Inc., W. E., Louisville, Ky.
- Shafting and Hangers.
Goldens' Fdry. & Mch. Co., Columbus, Ga.
- PULVERIZED COAL EQUIPMENT.**
Fuller Lehigh Co., Fullerton, Pa.
- PULVERIZERS (See Crushing and Pulverizing Machinery.)**
- PUMPING MACHINERY.**
American Well Works, Aurora, Ill.
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City.
Fairbanks, Morse & Co., Chicago, Ill.
Layne & Bowler, Inc., Memphis, Tenn.
Myers & Bro. Co., The F. E., Ashland, O.
Virginia Mchry. & Well Co., Richmond, Va.
- PUMPS (Air.)**
Manistee Iron Works Co., Manistee, Mich.
- (Boiler Feed.)
Cameron, A. S., Steam Pump Works (Ingersoll-Rand Co.), New York City

**Knuckle
Joint****BALING PRESS**

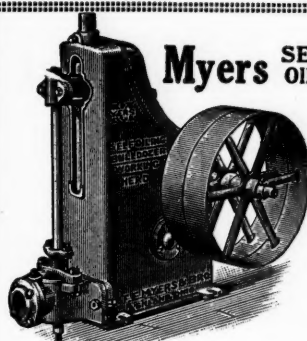
60 to 500 Tons Pressure.
Motor Drive, Silent Chain, Center
of Screw.

Button Control—with Reversing
Switch and with limit stops up
and down.

Self contained. Set anywhere you
can run a wire.

*Our Catalogue sent on request will tell you
more about them.*

Dunning & Boschert Press Co., Inc.
327 W. Water St. SYRACUSE, N. Y.

**Myers SELF-OILING Power Pumps**

When a Myers Self-Oiling Power Pump is installed there is a satisfaction in knowing that the water supply will be uniform and that the operation and maintenance costs will be cut to the minimum. Twelve sizes, operation any power, meet most requirements in domestic, agricultural, commercial and industrial fields. No. PP-61 catalog mailed, if interested.

The F. E. MYERS & BROS. CO.

ASHLAND, OHIO

Ashland Pump and Hay Tool Works

SEWER PIPE
CULVERT PIPE
METER BOXES
WALL COPING
DRAIN TILE



FLUE LINING
FIRE BRICK
FIRE CLAY
GRATE BACKS
SEPTIC TANKS

This stamp on Clay Products carries the same guarantee of quality as Sterling on silver.

We solicit your inquiries

LEE CLAY PRODUCTS COMPANY

Office and Plant:

CLEARFIELD, Rowan County KENTUCKY

SAND PUMPS

A wide range of types in sizes 4" to 15"

For belt drive and for direct connection to motor

Illustrated booklet on request

GEORGIA IRON WORKS
AUGUSTA, GA.

MANISTEE CENTRIFUGAL**P U M P S**

Condensers—Chemical Evaporators—Gate Valves—Hydrants
MANISTEE IRON WORKS CO.
156 Turner Ave., MANISTEE, MICHIGAN

**INDUSTRIAL
PIPING**

Power Piping Co., Pittsburgh, Pa.

**Perforated Metal Screens
for every purpose**

also elevator buckets MITCO Products—Interlocked Steel Grating; hoppers; stacks and Shur-Site Stair Treads; tanks. Armorgrids.

HENDRICK MANUFACTURING CO.

44 Dundaff St., Carbondale, Pa.
Offices in Principal Cities

PERFORATED METALS HEADQUARTERS

Cotton Seed Oil Works a Specialty

Send for Samples

ERDLER PERFORATING CO. Rochester, N. Y.

GLAMORGAN

PIPE & FOUNDRY CO.

GENERAL FOUNDERS AND MACHINISTS
LYNCHBURG, VA.

THE GEORGIA MARBLE COMPANY

Producers and Manufacturers of

GEORGIA MARBLE

Tate, Georgia

Atlanta Chicago Cleveland Dallas New York

**CAST IRON PIPE
-AND FITTINGS-**

American Cast Iron Pipe Company
Birmingham, Ala.
SALES OFFICES IN PRINCIPAL CITIES

**FIRE CLAY, SEWER PIPE, FLUE
LINERS and WALL COPING**

Write for Catalogue and Discounts

Owensboro Sewer Pipe Co. Owensboro, Ky.

Iron and Steel Products

BETHLEHEM STEEL COMPANY
General Offices: Bethlehem, Pa.

District Offices: New York,
Boston, Philadelphia, Balti-
more, Washington, Atlanta,



Pittsburgh, Buffalo, Cleveland,
Cincinnati, Detroit, Chicago,
St. Louis.

Pacific Coast Distributor: Pacific Coast Steel Corporation, San Francisco,
Los Angeles, Portland, Seattle, Honolulu.

BETHLEHEM

THE PHOENIX IRON CO.

MANUFACTURERS OF OPEN HEARTH

Structural Steel Shapes, Beams,
Channels, Angles, and Ship Shapes

Works: Phoenixville, Pa. Main Offices: Philadelphia, Pa.

OFFICES:

22 S. 15th St., Philadelphia 30 Church St., New York
Munsey Building, Washington 110 State St., Boston
City Savings Bk. Bldg., Albany, N. Y. 26 Victoria St., London

THE PHOENIX BRIDGE CO.

Engineers, Fabricators, and Erectors
Bridges and Other Structures of Steel
CAPACITY 60,000 TONS

Works and Engineering Office: Phoenixville, Pa.

Snead Architectural Iron Works
STRUCTURAL STEEL
ORNAMENTAL IRON
LOUISVILLE, KY.



BELMONT IRON WORKS

PHILADELPHIA NEW YORK EDDYSTON

Southern Sales Offices, Charlotte, N. C.

Engineers Contractors Exporters

Structural Steel

Shop and Field Welded Steel Buildings

DIETRICH BROTHERS

Structural and Ornamental Iron and Steel Works
Large Stock of Standard and Bethlehem Shapes

CONCRETE REINFORCEMENTS
BALTIMORE, MD.

Bristol Steel & Iron Works, Inc.

STRUCTURAL STEEL FOR BRIDGES, BUILDINGS
AND ALL INDUSTRIAL PURPOSES
STEEL PLATE & MISCELLANEOUS IRON WORK

BRISTOL, VA.—TENN.

DeLaval Steam Turbine Co., Trenton, N.J.
Manistee Iron Works Co., Manistee, Mich.
Myers & Bro. Co., The F. E., Ashland, O.

—(Centrifugal.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
American Well Works, Aurora, Ill.
Cameron, A. S., Steam Pump Works
(Ingersoll-Rand Co.), New York City.
DeLaval Steam Turbine Co., Trenton, N.J.
Fairbanks, Morse & Co., Chicago, Ill.
LaBour Co., Elkhart, Ind.
Layne & Bowler, Inc., Memphis, Tenn.
Manistee Iron Works Co., Manistee, Mich.

—(Deep Well.)

American Well Works, Aurora, Ill.
Layne & Bowler, Inc., Memphis, Tenn.

—(Hydraulic.)

Dunning & Boschert Press Co., Inc.,
Syracuse, N. Y.

—(Power.)

American Well Works, Aurora, Ill.

—(Pulverized Coal.)

Fuller Lehigh Co., Fullerton, Pa.

—(Sand and Dredging.)

Georgia Iron Works, Augusta, Ga.

—(Steam.)

Cameron, A. S., Steam Pump Works
(Ingersoll-Rand Co.), New York City.
Fairbanks, Morse & Co., Chicago, Ill.

—(Water Works.)

American Well Works, Aurora, Ill.
Layne & Bowler, Inc., Memphis, Tenn.
Manistee Iron Works Co., Manistee, Mich.

PUNCHING AND SHEARING MACHINERY.

Bliss Co., E. W., Brooklyn, N. Y.
Whitney Metal Tool Co., Rockford, Ill.

QUANTITY SURVEYS.

Spring, Chas. Herbert, Greensboro, N. C.

RACK RAKES.

Newport News Shipbuilding & Dry Dock
Co., Newport News, Va.

RADIATOR ENCLOSURES.

Manhattan Perforated Metal Co., Inc.,
Long Island City, N. Y.

RAILINGS (Iron Pipe.)

Pipe Belling Constr. Co., Long Island
City, N. Y.

RAILROAD Equipment and Sup- plies (New.)

Robinson & Orr, Pittsburgh, Pa.

—Equipment and Supplies. (Used.)

Dyer Co., W. H., St. Louis, Mo.
Smith & Co., W. M., Birmingham, Ala.
Southern Iron and Equip. Co., Atlanta.

—(Frogs and Switches.)

Bethlehem Steel Co., Bethlehem, Pa.
Robinson & Orr, Pittsburgh, Pa.

RAILROADS — (Offering Indus- trial, Agricultural and Com- mercial Opportunities.)

Atlanta and West Point R. R., Atlanta.
Central of Georgia Rwy., Savannah, Ga.
Model Land Company, Flagler System,
St. Augustine, Fla.
Norfolk & Western Railway, Roanoke, Va.

RAILS (New and Used.)

Carnegie Steel Co., Pittsburgh, Pa.
Dyer Co., W. H., St. Louis, Mo.
Hyman-Michaels Co., Chicago, Ill.
Perry, Burton, Doane Co., Philadelphia.
Robinson & Orr, Pittsburgh, Pa.
Smith & Co., W. M., Birmingham, Ala.
Southern Iron & Equip. Co., Atlanta, Ga.
Sweet's Steel Co., Williamsport, Pa.
Tennessee Coal, Iron & Railroad Co.,
Birmingham, Ala.

RAILWAYS (Marine.)

Charleston Dry Dock and Machine Co.,
Charleston, S. C.

RECEPTACLES (Self-Closing — Waste Paper.)

Whitaker Paper Co., Baltimore, Md.

REINFORCING for Concrete.

American Steel and Wire Co., Balto., Md.
Austin Bros. Bridge Co., Atlanta, Ga.
Carnegie Steel Co., Pittsburgh, Pa.

Dietrich Brothers, Baltimore, Md.
Gulf States Steel Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pitts-
burgh, Pa.
Oliver Iron & Steel Corp., Pittsburgh, Pa.

RIVER & HARBOR IMPROVE- MENTS, (Dredging, Docks, Wharves, etc.)

Arundel Corp., The, Baltimore, Md.
Atlantic Gulf and Pacific Co., New York.
Kansas City Bridge Co., Kansas City.

RIVETS.

Russell, Burdall & Ward Bolt & Nut
Co., Port Chester, N. Y.

ROAD and Street Machinery.

Blaw-Knox Co., Pittsburgh, Pa.
Buffalo-Springfield Roller Co., Spring-
field, O.
Caterpillar Tractor Co., Peoria, Ill.
Gillie Machine Co., Tonawanda, N. Y.
Universal Crane Co., Lorain, Ohio.

—and Street Material.

Bexley & Co., W. W., Roanoke, Va.
Woodstock Slag Corp., Birmingham, Ala.

—Graders and Scrapers.

Caterpillar Tractor Co., Peoria, Ill.

—Oils and Preservatives.

Gulf Refining Co., Pittsburgh, Pa.

—Rollers (Steam and Gasoline.)

Buffalo-Springfield Roller Co., Spring-
field, O.

—Scarifiers.

Buffalo-Springfield Roller Co., Spring-
field, O.

ROOF INSULATION.

United Cork Companies, Lyndhurst, N. J.

ROOFING (Asphalt Built-Up.)

Barber Asphalt Co., Philadelphia, Pa.

—(Ready Prepared, Felt, Tar, Asbestos, Asphalt.)

Ruberoid Co., New York City.

—and Siding (Composition.)

Ruberoid Co., New York City.

—and Siding (Metal.)

American Rolling Mill Co., Middletown, O.
American Sheet and Tin Plate Co., Pitts-
burgh, Pa.
Gulf State Steel Co., Birmingham, Ala.
Youngstown Sheet and Tube Co., Youngs-
town, O.

SAFES.

York Safe & Lock Co., York, Penna.

SAND.

Arundel Corp., Baltimore, Md.
Friend & Co., Inc., Petersburg, Va.
Georgia Sand & Gravel Co., Augusta, Ga.

SANITARY Drinking Fountains.

Rundle-Spence Mfg. Co., Milwaukee, Wis.

SAWMILL Machinery.

Schofield's Sons Co., J. S., Macon, Ga.

SAWS (Cold Metal.)

Earle Gear and Machine Co., Phila., Pa.

SCRAP IRON AND STEEL.

Hunts Sons, M. J., Philadelphia, Pa.
Perry, Burton, Doane Co., Philadelphia.
Smith & Co., W. M., Birmingham, Ala.

SCREEN CLOTH.

Seneca Wire & Mfg. Co., Fostoria, Ohio.

SCREENING (For Concrete and Road Construction.)

American Limestone Co., Knoxville, Tenn.

SCREENS (Sand, Gravel, Stone, Coal, Ore, etc.)

Chicago Perforating Co., Chicago, Ill.
Erdle Perforating Co., Rochester, N. Y.
Gründler Crusher & Pulverizer Co., St.
Louis, Mo.
Hendrick Mfg. Co., Carbondale, Pa.
Mundt & Sons, Charles, Jersey City, N.J.
Universal Crusher Co., Cedar Rapids, Ia.

SCREW-Machine Products.
Progressive Mfg. Co., Torrington, Conn.

SCREWS (Machine.)
Progressive Mfg. Co., Torrington, Conn.

SEAWALLS.
Shore-Line Builders, Inc., Jacksonville, Fla.

SEWAGE Disposal Apparatus.
Pacific Flush-Tank Co., New York, N. Y.

—Disposal System.
D-N Corporation, Winston-Salem, N. C.

SEWER Joint Compounds.
Leadite Co., Philadelphia, Pa.
Pacific Flush-Tank Co., New York, N. Y.

—Pipe (Vitrified).
Bannon Pipe Co., Louisville, Ky.
Lee Clay Products Co., Clearfield, Ky.
Owensboro Sewer Pipe Co., Owensboro, Ky.

SHAFTING Material (Tubular.)
National Tube Co., Pittsburgh, Pa.

SHARPENING Stones.
Carborundum Co., Niagara Falls, N. Y.

SHEET Metal Working Machinery.
Bliss Co., E. W., Brooklyn, N. Y.
Whitney Metal Tool Co., Rockford, Ill.
Yoder Co., The, Cleveland, Ohio.

—Steel and Iron.
American Sheet and Tin Plate Co., Pittsburgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Gulf States Steel Co., Birmingham, Ala.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngstown, O.

SHEETS (Asbestos.)
Ruberoid Co., New York City.

—(Galvanized and Black).
American Rolling Mill Co., Middletown.
American Sheet & Tin Plate Co., Pittsburgh, Pa.

SHINGLES (Asbestos.)
Ruberoid Co., New York City.

SHIPBUILDING.
Charleston Dry Dock & Machine Co., Charleston, S. C.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.

SHOVELS (Steam, Gas and Electric Power.)
Bucyrus-Erie Co., St. Milwaukee, Wis.
Northwest Engineering Co., Chicago, Ill.
Ohio Power Shovel Co., Lima, Ohio.

SHUTTERS (Steel.)
Merritt & Evans Co., Philadelphia, Pa.

SIGNALS. (Danger.)
Consolidated Iron-Steel Mfg. Co., Cleveland, O.

SILICATE OF SODA.
Grasselli Chemical Co., Inc., Birmingham.

SITES (Manufacturing.)
Atlanta and West Point R. R., Atlanta.
Central of Georgia Rwy., Savannah, Ga.
Crisp County Power Commission, Cordele, Ga.
Galveston, City of Galveston, Texas.
Missouri-Kansas-Texas Lines, Dallas, Tex.
Model Land Company, (Flagler System), St. Augustine, Fla.
Norfolk & Western Railway, Roanoke, Va.
Parkersburg, W. Va., Board of Commerce.
Raynolds Bros. Lbr. Co., Albany, Ga.
Southern Natural Gas Corp., Birmingham.
South Memphis Land Co., Memphis, Tenn.
Texas Power & Light Co., Dallas, Texas.

SLAG, For Concrete.
Woodstock Slag Corp., Birmingham, Ala.

—(Furnace).
Woodstock Slag Corp., Birmingham, Ala.

SLINGS (Wire Rope.)
American Steel & Wire Co., Chicago, Ill.
Beckling's Sons Co., John A., Trenton, N. J.

SLUICE GATES AND APPLIANCES.
Smith Co., S. Morgan, York, Pa.

SPEED REDUCERS.
Earle Gear & Mach. Co., Phila., Pa.

SPIKES, (Railroad, Ship.)
Bethlehem Steel Co., Bethlehem, Pa.
Sweet's Steel Co., Williamsport, Pa.

SPREADER (Surfacing Material)

Gillie Machine Co., Tonawanda, N. Y.

SPRINGS (Machinery, Railway, Spiral Steel.)

American Steel & Wire Co., Balto., Md.

—(Wire—All Kinds.)
American Steel & Wire Co., Balto., Md.

SPRINKLERS (Automatic Fire.)
Moore Pipe & Sprinkler Co., Jacksonville, Fla.

SPROCKETS.
Diamond Chain & Mfg. Co., Indianapolis, Ind.

STACKS (Iron and Steel.)
Birmingham Boiler and Engineering Co., Birmingham, Ala.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham, Tenn.
Downingtown Iron Works, Downingtown, Pa.
Hedges Walsh Weldner Co., Chattanooga, Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
Lombard Iron Works & Supply Co., Augusta, Ga.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Schofield's Sons Co., J. S., Macon, Ga.
U. S. Pipe & Foundry Co., Burlington, N. J.
Virginia Bridge & Iron Co., Roanoke, Va.

STAINS (Shingle, Woodwork.)
Cabot, Inc., Samuel, Boston, Mass.

STAIR TREADS.
Central Iron & Steel Co., Harrisburg, Pa.

STANDPIPES.
Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham, Tenn.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.

STATIONERS (Envelopes, Letter and Billheads, etc.)
Smith & Son Co., Oscar T., Baltimore, Md.
Young & Selden Co., Baltimore, Md.

STEAM (Specialties.)
Lenkenheimer Co., The Cincinnati, O.
Mueller Co., Decatur, Ill.

STEEL.
Bethlehem Steel Co., Bethlehem, Pa.
Central Iron & Steel Co., Harrisburg, Pa.
Dietrich Brothers, Baltimore, Md.
Gulf States Steel Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Oliver Iron & Steel Corp., Pittsburgh, Pa.
Ryerson & Son, Inc., Jos. T., St. Louis and New York City.
Tennessee Coal, Iron & Railroad Co., Birmingham, Ala.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Alloy.)
Timken Roller Bearing Co., Canton, Ohio.

—(Cold Rolled.)
American Steel & Wire Co., Balto., Md.

—(Fabricators.)
United Welding Co., Middletown, O.

—(Special Analysis.)
Timken Roller Bearing Co., Canton, Ohio.

—(Tool, High Speed.)
Bethlehem Steel Co., Bethlehem, Pa.

—Buildings (Designers and Builders.)
American Bridge Co., New York, N. Y.
Belmont Iron Works, Philadelphia, Pa.
Carolina Steel & Iron Co., Greensboro, N. C.
Ingalls Iron Works Co., Birmingham, Ala.
McClintic-Marshall Co., Pittsburgh, Pa.
Phoenix Iron Co., The, Phila., Pa.
Pittsburgh-Des Moines Steel Co., Pittsburgh, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.

—Forms (Curb, Gutter, Side-walk, Road.)
Blaw-Knox Co., Pittsburgh, Pa.



Service

Although a much abused word, "service" is an important consideration in the Ingalls organization. A customer's requirements are believed to be not only so much structural steel, but a manufactured product of high quality and workmanship—fabricated true to specifications, and delivered on time to maintain efficient construction schedules.

Send us inquiries for all kinds of structural steel, standard buildings, shapes, bridges, airplane hangars, storage tanks, warehouse steel. We will appreciate an opportunity to demonstrate Ingall's service.

The Ingalls Iron Works Company

Main Office and Plants: Birmingham, Ala.
Eastern Plant: Verona, Pa. (in Pittsburgh Dist.)
Branch Sales Offices: New York, New Orleans, Tampa, Charlotte, N. C., Tulsa, Jackson, Miss.

... STANDARD ... STEEL BUILDINGS

64% More Welding Work in 1930

The fact that our fabricated tonnage increased sixty-four per cent and our new account increased thirty per cent during the strenuous year of 1930 surely indicates that our customers appreciate the qualifications they have found in us.

Products

Pipe for Water, Gas and Steam.
Plain, Coated or Galvanized.
Dredge Equipment.
Pipe and Pontoons.

Stainless Steel Fabricated and Welded.

Special Paper Mill Equipment.
Smoke Stacks, Breechings, Ducts and Economizers.

Caissons for Foundations and Water Wells.
Hoppers, Tanks, Special Pipe Fittings, etc.

THE UNITED WELDING CO. Middletown, O.

EVERY THURSDAY is publication day of the MANUFACTURERS RECORD.

Changes of copy must reach us eight days in advance, or fifteen days in advance if proofs are requested.

MANUFACTURERS RECORD Baltimore, Maryland

COLE



Tanks & Vats
for Acid Storage
NH₃ Storage
Aluminum
Alloy Steels
Lead Lined
Monel Metal
Tin Lined

Boilers—HRT
and Manning
Jacketed Kettles
Agitator Tanks
Bubble Towers
Gas Scrubbers
Welded Steel Pipe
Creosoting Cylinders

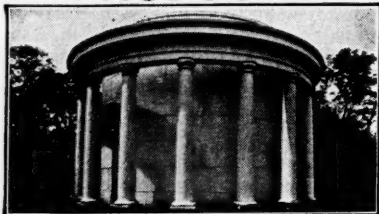
R. D. COLE MANUFACTURING CO.

Established 1854

NEWNAN, GA.

New York Office,
5 Beekman St.

SOUTHLAND PRODUCTS



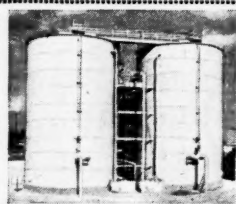
Million gal. Tank at White Sulphur Springs, W. Va.

CHATTANOOGA BOILER & TANK CO.
Chattanooga, Tenn.

STAND
PIPES
SMOKE
STACKS
TOWERS
AND
TANKS
STEEL
RIVETED
PIPE

REDWOOD TANKS ALL SIZES IN STOCK EVERLASTING

VIRGINIA MACHINERY & WELL COMPANY, Inc.
Dept. M. R. Richmond, Va.



STEEL STORAGE TANKS
SMOKESTACKS, STEEL BINS,
STEEL PIPE, KILNS

Ask our nearest office for quotations
CHICAGO BRIDGE & IRON WORKS
Birmingham 1530 Fifth St., N.
Dallas 1208 Burt Bldg.
Also Chicago, New York, Cleveland, Tulsa,
Houston, Detroit, Philadelphia, Boston, San
Francisco, Seattle, Los Angeles, Havana

—Plate Construction (Riveted
or Welded.)
Birmingham Boiler & Engr. Co., Bir-
mingham, Ala.
Birmingham Tank Co., Birmingham.
Bristol Steel & Iron Works, Inc., Bris-
tol, Va.
Carolina Steel & Iron Co., Greensboro,
N. C.
Central Iron & Steel Co., Harrisburg, Pa.
Chattanooga Boiler & Tank Co., Chat-
tanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Downingtown Iron Works, Downingtown, Pa.
Hedges Walsh Welding Co., Chattanooga,
Tenn.
Ingalls Iron Works Co., Birmingham, Ala.
Phoenix Iron Co., The, Phila., Pa.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.
Schedel's Sons Co., J. S., Macon, Ga.
United Welding Co., Middletown, O.

STILLS.
Alco Products, Inc., New York City.

STOKERS (Mechanical.)
Alabama Stoker & Boiler Co., Birmin-
gham, Ala.
Babcock & Wilcox Co., The, New York.
Detroit Stoker Company, Detroit, Mich.

STORAGE.
General Warehouse & Storage Co., At-
lanta, Ga.

STORAGE Batteries.
Electric Storage Battery Co., Philadelphia.

—Bins (Steel.)
Blaw-Knox Co., Pittsburgh, Pa.

STRINGERS (Bridge-Creosoted.)
American Creosoting Co., Louisville, Ky.

STRUCTURAL STEEL AND
IRON.

American Bridge Co., New York, N. Y.
Austin Bros. Bridge Co., Atlanta, Ga.
Belmont Iron Works, Philadelphia, Pa.
Bristol Steel & Iron Works, Inc., Bris-
tol, Va.
Carnegie Steel Co., Pittsburgh, Pa.
Carolina Steel & Iron Co., Greensboro,
N. C.
Chattanooga Boiler & Tank Co., Chat-
tanooga, Tenn.
Converse Bridge & Steel Co., Chat-
tanooga, Tenn.
Dietrich Brothers, Baltimore, Md.
Ingalls Iron Works Co., Birmingham, Ala.
Jones & Laughlin Steel Corp., Pitts-
burgh, Pa.
McClintic-Marshall Co., Pittsburgh, Pa.
Phoenix Iron Co., The, Phila., Pa.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.
Roanoke Iron & Bridge Works, Inc.,
Roanoke, Va.
Byerson & Son, Inc., Jos. T., St. Louis
and New York City
Snead Architectural Iron Works, Louis-
ville, Ky.
Tennessee Coal, Iron & Railroad Co.,
Birmingham, Ala.
Virginia Bridge & Iron Co., Roanoke, Va.

SULPHATE OF ALUMINA.
Grasselli Chemical Co., Inc., Birmingham.

SULPHIDE OF SODA.
Grasselli Chemical Co., Inc., Birmingham.

SULPHURIC ACID.
Davison Chemical Co., The, Balto., Md.
Du Pont de Nemours & Co., Inc., E. I.,
Wilmington, Del.

SUPER-HEATERS (Steam.)
Babcock & Wilcox Co., The, New York.

SURVEYS (Industrial.)
MacElwaine & Crandall, Inc., Cambridge,
Mass.
Technical Service Co., New York, N. Y.

—(Quantity.)
Martin, Joe B., Charlotte, N. C.

SURVEYING INSTRUMENTS.
Weber Co., Inc., F., Philadelphia, Pa.

SWINGING ENGINES.
Dake Engine Co., Grand Haven, Mich.

SWITCHBOARDS, SWITCHES,
ETC.
General Electric Co., Schenectady, N. Y.

SYSTEMS (Business.)
Ernst & Ernst, New York, N. Y.

TANKS (Air Compressor.)
Titusville Iron Works Co., Titusville, Pa.

—(Elevated Steel.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Chattanooga Boiler & Tank Co., Chat-
tanooga, Tenn.

Chicago Bridge & Iron Wks., Birmingham.
Cole Mfg. Co., E. D., Newnan, Ga.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.
Schedel's Sons Co., J. S., Macon, Ga.
Virginia Bridge & Iron Co., Roanoke, Va.

—(Elevated Wood.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.

—(Iron and Steel.)
American Bridge Co., New York, N. Y.
Birmingham Tank Co., Birmingham, Ala.
Chattanooga Boiler & Tank Co., Chat-
tanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Cole Mfg. Co., E. D., Newnan, Ga.
Downingtown Iron Works, Downingtown,
Pa.

Finnigan Co., Inc., J. J., Atlanta, Ga.
Lombard Iron Works & Supply Co., Au-
gusta, Ga.
McClintic-Marshall Co., Pittsburgh, Pa.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.
Schedel's Sons Co., J. S., Macon, Ga.
Titusville Iron Works Co., Titusville, Pa.
Virginia Bridge & Iron Co., Roanoke, Va.
Westinghouse Traction Brake Co., Wil-
merding, Pa.

—Mixing.
Alco Products, Inc., New York, N. Y.

—(Pressure.)
Newport News Shipbuilding & Dry Dock
Co., Newport News, Va.

—(Seamless Steel.)
National Tube Co., Pittsburgh, Pa.

—(Storage, Oil, etc.)
Biggs Boiler Works, Akron, Ohio.
Birmingham Boiler & Engr. Co., Bir-
mingham, Ala.
Chattanooga Boiler & Tank Co., Chat-
tanooga, Tenn.
Chicago Bridge & Iron Wks., Birmingham.
Downingtown Iron Works, Downingtown,
Pa.
Ingalls Iron Works Co., Birmingham, Ala.
Pittsburgh-Des Moines Steel Co., Pitts-
burgh, Pa.
Titusville Iron Works Co., Titusville, Pa.
United Welding Co., Middletown, O.

—(Wood.)
Caldwell Co., Inc., W. E., Louisville, Ky.
Davis & Son, G. M., Palatka, Fla.
Virginia Mch. & Well Co., Richmond,
Va.

TARPAULINS.
Atlanta Tent & Awning Co., East Point,
Ga.
Fulton Bag & Cotton Mills, Atlanta, Ga.

TAX SPECIALISTS.
Ernst & Ernst, New York, N. Y.

TELEPHONE SERVICE.
American Telephone & Telegraph Co.

TENTS.
Fulton Bag & Cotton Mills, Atlanta, Ga.

TEXTILE CHEMICALS.
Grasselli Chemical Co., Inc., Birmingham.

TIES (Creosoted.)
American Creosoting Co., Louisville, Ky.

TILE (Cork Composition.)
Congoleum-Nairn Inc., Kearny, N. J.

—(Cork Flooring.)
Congoleum-Nairn Inc., Kearny, N. J.
United Cork Companies, Lyndhurst, N. J.

—(Floor.)
Hood Co., B. Miffin, Daisy, Tenn.

—(Roof.)
Hood Co., B. Miffin, Daisy, Tenn.

—(Sewer.)
Lee Clay Products Co., Clearfield, Ky.

TIMBER (Creosoted.)
Amer. Creosote Wks., Inc., New Orleans.
Amer. Creosoting Co., Inc., Louisville, Ky.

TIN AND TERNE PLATES.
American Sheet & Tin Plate Co., Pitts-
burgh, Pa.
Bethlehem Steel Co., Bethlehem, Pa.
Youngstown Sheet & Tube Co., Youngs-
town, Ohio.

TOBACCO MACHINERY.
Ripley Foundry & Machine Co., Ripley, O.

TORCHES. (Contractors.)
Consolidated Iron-Steel Mfg. Co., Cleve-
land, O.

TOWERS (Electric Transmis-
sion.)
American Bridge Co., New York, N. Y.
Bessemer Galvanizing Works, Birming-
ham, Ala.

(Radio).

Bessemer Galvanizing Works, Birmingham, Ala.

(Steel and Wood.)

Chattanooga Boiler & Tank Co., Chattanooga, Tenn.
Cole Mfg. Co., R. D., Newnan, Ga.

CRACK (Portable or Permanent.)
Equipment Corp. of America, Chicago, Ill.
Sweet's Steel Co., Williamsport, Pa.

TRACTORS (Industrial.)

Atlas Car & Mfg. Co., The, Cleveland, O.
Caterpillar Tractor Co., Peoria, Ill.
International Harvester Co. of America, Inc., Chicago, Ill.

(Road.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
Caterpillar Tractor Co., Peoria, Ill.

TRAILERS (Arch-Girder, Heavy Duty.)
Williams Co., G. H., Erie, Pa.

TRAMWAYS, (Aerial Wire Rope.)

American Steel & Wire Co., Balto., Md.

TRANSFORMERS.

General Electric Co., Schenectady, N. Y.

(Used.)

Electric Service Co., Cincinnati, O.

TRANSMISSION TOWERS

(Galvanized.)
McClintic-Marshall Co., Pittsburgh, Pa.

TRENCH MACHINERY. See
Excavators (Trench.)

TRI-SODIUM PHOSPHATE.

Grasselli Chemical Co., Inc., Birmingham.

TRUCK CRANES.

Universal Crane Co., Lorain, O.

TRUCKS (Industrial.)

Atlas Car & Mfg. Co., The, Cleveland, O.

(Motor.)

International Harvester Co., of America, Inc., Chicago, Ill.

TUBES (Boiler.) See Boiler
Tubes.

TUBING (Seamless Steel.)

National Tube Co., Pittsburgh, Pa.
Timken Rolling Bearing Co., Canton, O.

TURBINES (Hydraulic.)

Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
Smith Co., S. Morgan, York, Pa.

(Steam.)

Allis-Chalmers Mfg. Co., Milwaukee, Wis.
DeLaval Steam Turbine Co., Trenton, N.J.
General Electric Co., Schenectady, N. Y.

TURNBUCKLES.

Russell, Burdall & Ward Bolt & Nut Co., Fort Chester, N. Y.

TURNTABLES.

American Bridge Co., New York, N. Y.
Virginia Bridge & Iron Co., Roanoke, Va.

(Portable for Motor Trucks.)
Blaw-Knox Co., Pittsburgh, Pa.

UNIONS.

Dart Mfg. Co., E. M., Providence, R. I.

VALVES.

Ledlow Valve Mfg. Co., The, Troy, N. Y.
Lunkenheimer Co., The, Cincinnati, Ohio.
Morco Nordstrom Valve Co., San Francisco, Cal.
Mueller Co., Decatur, Ill.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
Westinghouse Traction Brake Co., Wilmerding, Pa.

(Acid Proof.)

Lunkenheimer Co., The, Cincinnati, Ohio.

(Corrosive Liquids.)

La Bour Co., Elkhart, Ind.

(Gate.)

Ledlow Valve Mfg. Co., The, Troy, N. Y.
Lunkenheimer Co., The, Cincinnati, Ohio.
Wood & Co., E. D., Philadelphia, Pa.

(Non-Corrosive Liquids.)

La Bour Co., Elkhart, Ind.

VAULTS (Bank and Safe Deposit.)

York Safe & Lock Co., York, Penna.

VENTILATORS (Roof.)

Merchant & Evans Co., Philadelphia, Pa.

WARDROBES (Hygienic.

School.)
Wilson Corp., The J. G., New York.

WAREHOUSING.

General Warehouse & Storage Co., Atlanta, Ga.

WATER HEATERS.

Finnigan Co., Inc., J. J., Atlanta, Ga.

WATERPROOFING (For Brick, Concrete, Granite.)
Sonnenborn, Sons, Inc., L., New York.

WATER Purification.

Bacharach & Co., E. W., Kansas City, Mo.
International Filter Co., Chicago, Ill.
Roberts Filter Mfg. Co., Darby (Phila.), Pa.

Softening Apparatus (Purifying.)

American Water Softener Co., Phila., Pa.
International Filter Co., Chicago, Ill.

Works Supplies and Appliances.

Amer. Cast Iron Pipe Co., Birmingham.
Cast Iron Pipe Research Assn., Chicago.
Glamorgan Pipe & Fdry. Co., Lynchburg, Va.
Leadite Co., Philadelphia, Pa.
Mueller Co., Decatur, Ill.
U. S. Pipe & Foundry Co., Burlington, N. J.
Wood & Co., R. D., Philadelphia, Pa.

WELDING.

Charleston Dry Dock & Machine Co., Charleston, S. C.
Hedges-Walsh-Weldner Co., Chattanooga, Tenn.
Newport News Shipbuilding & Dry Dock Co., Newport News, Va.
United Welding Co., Middletown, O.

WELDING APPARATUS (Electric Arc.)

General Electric Co., Schenectady, N. Y.

WELL CONTRACTORS (Oil,

Artesian, etc.)
Virginia Machy. & Well Co., Richmond, Va.

WHEELS AND AXLES.

Carnegie Steel Co., Pittsburgh, Pa.

WIRE (All Kinds.)

American Steel & Wire Co., Chicago.
Jones & Laughlin Steel Corp., Pittsburgh, Pa.
Seneca Wire & Mfg. Co., Fostoria, O.

(Barbed Wire, etc.)

American Steel & Wire Co., Balto., Md.
Gulf States Steel Co., Birmingham, Ala.
Youngstown Sheet & Tube Co., Youngstown, Ohio.

(Fence.)

Cyclone Fence Co., Waukegan, Ill.
Robertson Steel & Iron Co., W. F., Cincinnati, O.
Stewart Iron Works Co., Cincinnati, O.

(Flat and Round.)

American Steel & Wire Co., Balto., Md.
Roebbing's Sons Co., John A., Trenton, N. J.
Seneca Wire & Mfg. Co., Fostoria, O.

(Galvanized and Annealed.)

Gulf States Steel Co., Birmingham, Ala.
Seneca Wire & Mfg. Co., Fostoria, O.

Cloth (Iron, Steel, Copper, Brass, etc.)

Harrington & King Perf. Co., Chicago.
Roebbing's Sons Co., John A., Trenton, N. J.
Seneca Wire & Mfg. Co., Fostoria, O.

Goods.

Cyclone Fence Co., Waukegan, Ill.

Rope (Transmission, Hoisting, Haulage.)

American Steel & Wire Co., Chicago, Ill.
Roebbing's Sons Co., John A., Trenton, N. J.

Rope Clips.

American Steel & Wire Co., Balto., Md.

Stapling.

Seneca Wire & Mfg. Co., Fostoria, O.

(Telephone and Telegraph.)

American Steel & Wire Co., Balto., Md.

(Welding.)

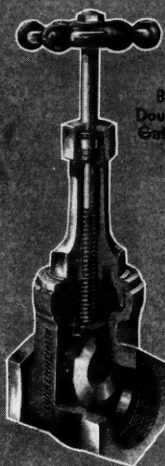
American Steel & Wire Co., Chicago, Ill.
Roebbing's Sons Co., John A., Trenton, N. J.
Seneca Wire & Mfg. Co., Fostoria, O.

ZINC META ARSENITE (Wood

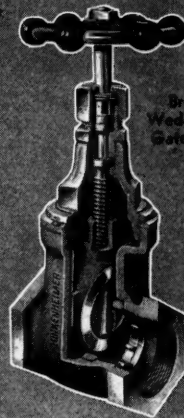
Preservative.)
Gulf States Creos. Co., Hattiesburg, Miss.



LUNKENHEIMER



Bronze
Double Disc
Gate Valve



Bronze
Wedge Disc
Gate Valve

THE LUNKENHEIMER CO.

INCORPORATED

CINCINNATI, OHIO, U.S.A.

NEW YORK CHICAGO BOSTON PHILADELPHIA

PITTSBURGH SAN FRANCISCO LONDON

EXPORTS: 1930-1931 \$1,000,000.00

Buy from the local
Lunkenheimer Distributor

11013-35-03

STEEL PLATE CONSTRUCTION

RIVETED AND WELDED PIPE,
STEEL STORAGE TANKS,
STACKS, AIR DUCTS,
BINS, LADLES

BIRMINGHAM BOILER & ENGINEERING CO.

BIRMINGHAM, ALA.

WATER FILTERS

Pressure and Gravity type for Municipal Water Supplies,
Rayon Manufacturing Plants, Textile Finishing Establishments,
Raw Water Ice Plants, Laundries, Etc.

ROBERTS FILTER MANUFACTURING COMPANY

604 Columbia Avenue

Darby, Pennsylvania

Water Purification Plants

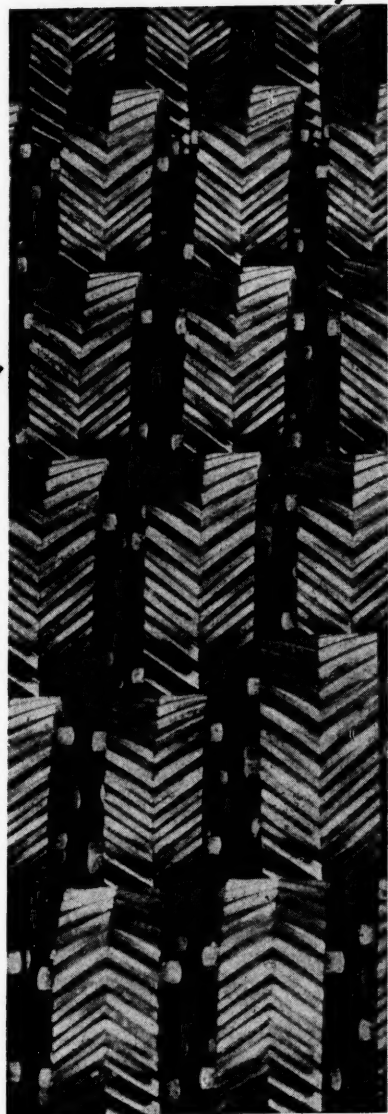
Any Type—Any Purpose—Any Capacity

Dry Chemical Feed Machines
Swimming Pool Filters

E. W. BACHARACH & CO.

Rialto Bldg.

Kansas City, Mo.



EARLE GEARS

Earle Gears are designed for your individual requirements —are cut to your order—at a cost no greater than for gears out of stock.

You can obtain the gears you need promptly, regardless of size, form or material — and in any required quantity.

Let us show you how specialization and quantity production can cut your gear costs. Send along your specifications for estimates.



EARLE GEARS

Send for this new Earle Gear catalog. It is a hand-book, contains tables, formulae and data for which all gear users have need. Shows also a number of photographs of gear installations on machinery of various kinds.

THE EARLE GEAR AND MACHINE COMPANY

4719 Stenton Ave., Philadelphia, Pa.

Please send me a copy of your new Catalog No. 31, without any obligation on my part.

Name
 Company
 Street
 City State

Yes!

ROLLER BEARINGS ON HIGH SPEED SHAFTS ARE A STEP IN THE RIGHT DIRECTION

but—You can't expect to eliminate troubles due to excessive friction unless your excavator is equipped throughout with anti-friction bearings.

LIMA shovels, cranes, draglines, and drag-shovels are the only excavators on the market to realize the full efficiency of roller bearings.

Every important bearing point from boom

point sheave to cone rollers is protected with a roller bearing which is your assurance of speedy and profitable operation.

LIMA clutches are roller bearing equipped, eliminating all grabbing and chattering commonly found in excavators employing bronze or babbitt bearings. We invite you to compare all other machines with the LIMA. You will then see its many advantages.



THE OHIO POWER SHOVEL COMPANY, LIMA, OHIO Division of Lima Locomotive Works, Incorporated

WESTERN OFFICE
846 Straus Building
CHICAGO, ILL.

EASTERN OFFICE
319 Fralingshuyzen Ave.
NEWARK, N. J.



SEATTLE
2244 First Ave. South

DALLAS
1303 So. Lamar Street

Canadian Representatives
The General Supply Co. of Canada, Ltd., Ottawa, Ont.
Tves Machinery Co., Ltd., Vancouver, B. C.

ATLANTA
303 Mortgage Guaranty
Building

